MULTIMODAL & PUBLIC SPACE

Design Guidelines

VIRGINIA DEPARTMENT OF RAIL
AND PUBLIC TRANSPORTATION

STEERING COMMITTEE MEETING PRESENTATION

OCTOBER 24, 2012

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WHY THESE GUIDELINES?

- Provide a resource to improve planning & coordination:
  - Regional Scale
  - Community Scale
  - Street Scale
- Enhance economic value/competitiveness of places
- Promote Safety
- Offer more travel choices
- Resource for locals to implement plan recommendations

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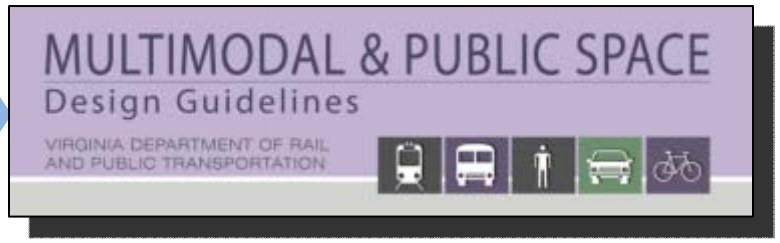
LINKAGE TO STATE PLANS/POLICIES

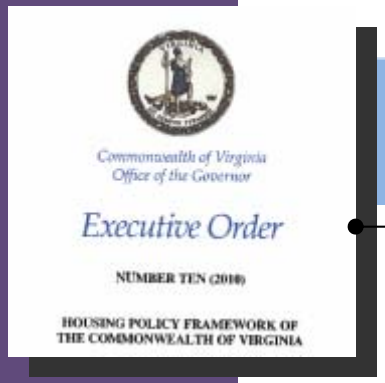
Governor's Strategic Multimodal Plan

"Improve accessibility to modes and activity centers"

Vtrans 2035 Update



"Increase travel choices to improve quality of life for Virginians"


Commonwealth of Virginia
Office of the Governor
Executive Order
NUMBER TEN (2010)
HOUSING POLICY FRAMEWORK OF THE COMMONWEALTH OF VIRGINIA

Governor's Housing Policy Initiative

"Address the integral linkage of housing, employment and transportation"

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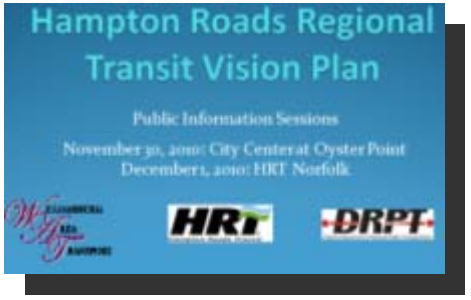
LINKAGE TO PROJECTS

Example of "common language" – all plans can use standard place type definitions

Super NoVA Plan

Statewide Transit/TDM Plan

Other studies (Rt. 1; Hampton Roads)



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STEERING COMMITTEE

50 Representatives from Local/Regional/State agencies:

- Albemarle County
- Amtrak Stations Development/ADA Program
- Arlington Co Transportation Division
- Blacksburg Transit
- City of Alexandria
- City of Norfolk
- City of Virginia Beach
- Crater PDC/ Tri-Cities MPO
- FAMPO/ GW Regional Commission
- Greater Lynchburg Transit Company
- GRTC Transit System
- Hampton Roads Transit
- Hampton Roads Transportation Planning Organization
- JAUNT, Inc
- Middle Peninsula Planning District Commission
- New River Valley Planning District Commission
- Petersburg Area Transit
- Potomac & Rappahannock Transportation Commission
- Region 2000 Local Government Council
- Richmond Regional MPO/ PDC
- Roanoke Valley-Alleghany Regional Commission
- Thomas Jefferson Planning District Commission
- University of Virginia
- VA Department for the Aging
- VA Department for the Blind and Vision Impaired
- VA Economic Development Partnership
- VA Transit Association
- VASITE
- VDOT - Northern Virginia
- VDOT Hampton Roads
- VDOT Northern VA District
- VDOT Northern Virginia
- VDOT TMPD/ VASITE
- VDOT Transp Mobility Planning Div (TMPD)
- Virginia Center for Transportation Innovation and Research
- Virginia Department of Health
- Virginia Department of Housing and Community Development
- Virginia Housing Development Authority
- Virginia Regional Transit Association
- VRT
- Washington Metro Area Transit Authority (WMATA)

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STEERING COMMITTEE MEETINGS

- Broad representation – transit providers, transportation planners, local govt., MPO/PDC rep's
- Lively discussions – eager for a tool such as the Guidelines
- Participants have anticipated many practical applications to the upcoming Guidelines in the meetings

<u>Meeting Locations& Activities:</u>

- Richmond – Regional Plans
- Lynchburg – Bus tour of corridors
- Norfolk – Ride the Tide TOD exercise
- Charlottesville – Walkability Audit

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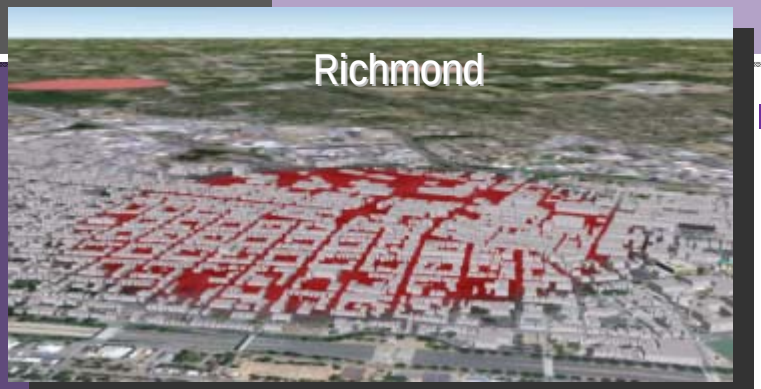
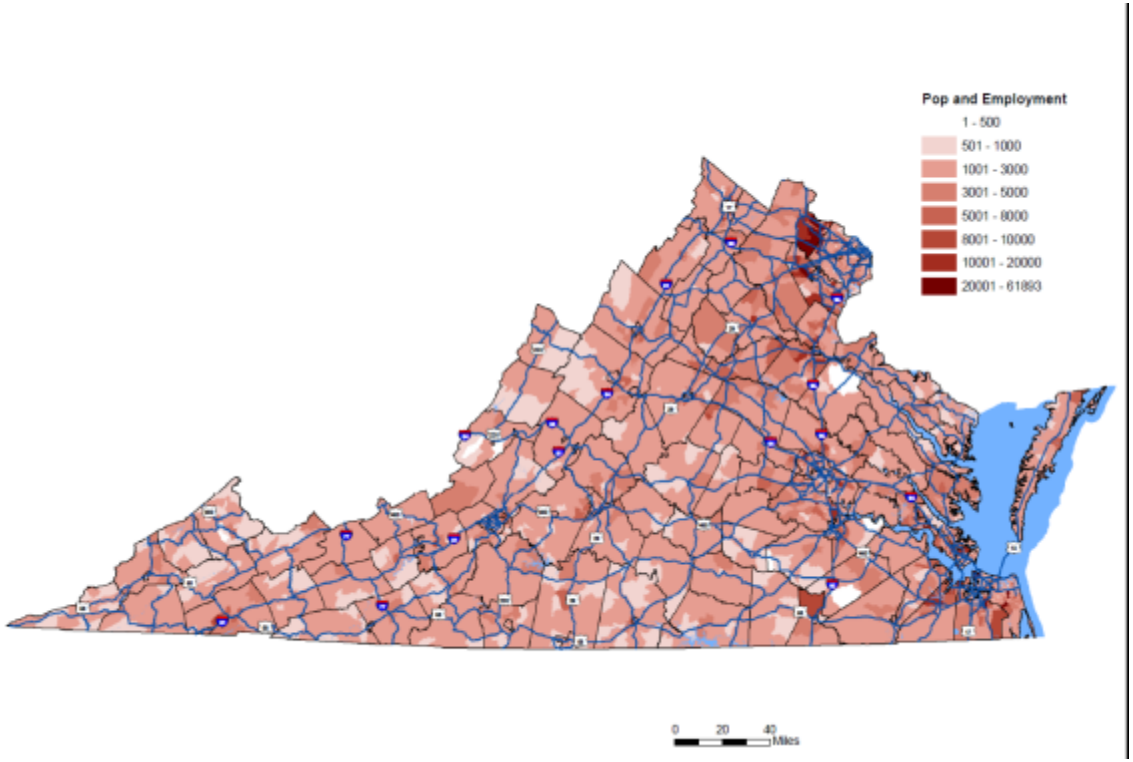
STATEWIDE CONTEXT



- These Guidelines were developed using real places from a Virginia Context



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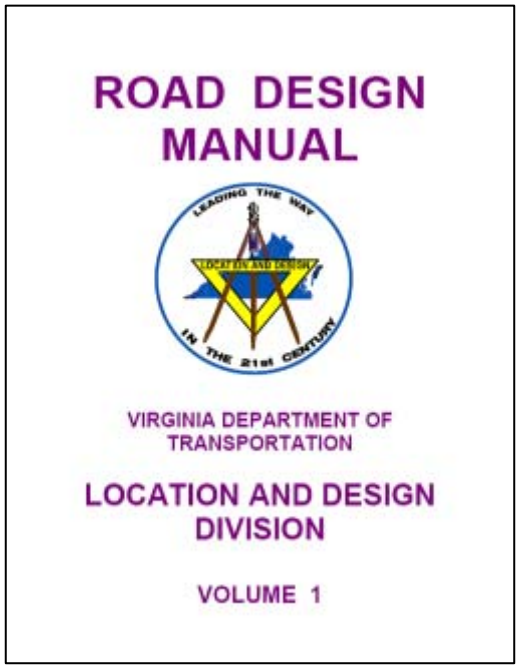
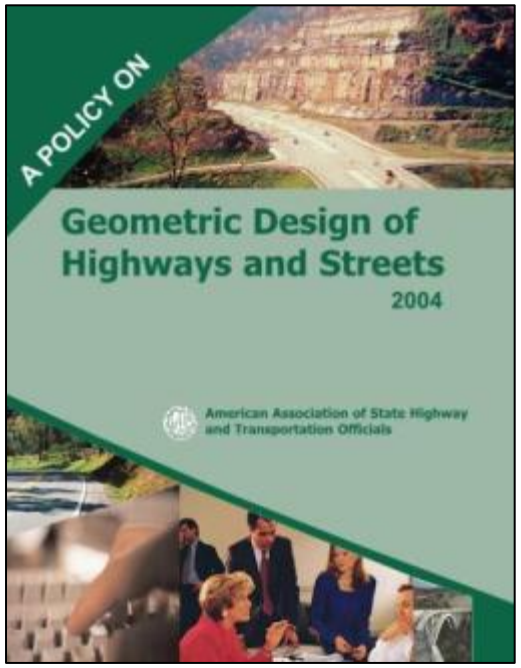
INDUSTRY STANDARDS

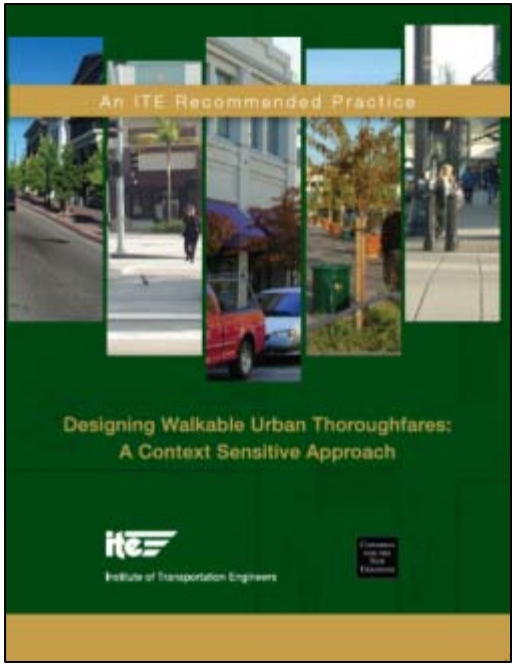
- Extensive research and use of (Virginia and National) industry standards



VDOT


A POLICY ON
Geometric Design of Highways and Streets
2004
American Association of State Highway and Transportation Officials

AASHTO



ITE & CNU

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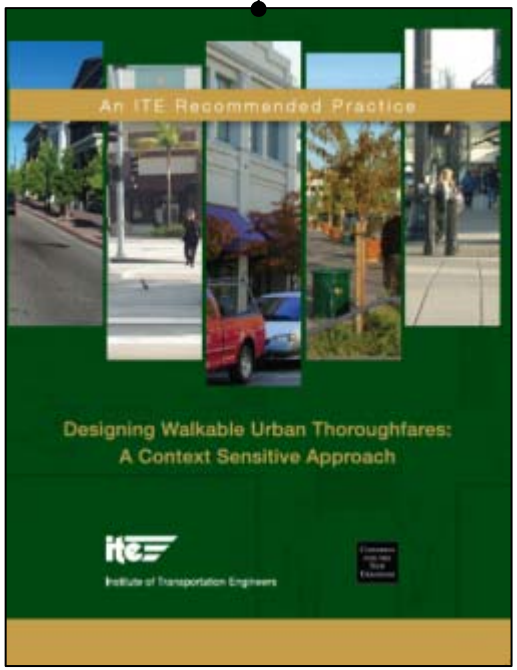
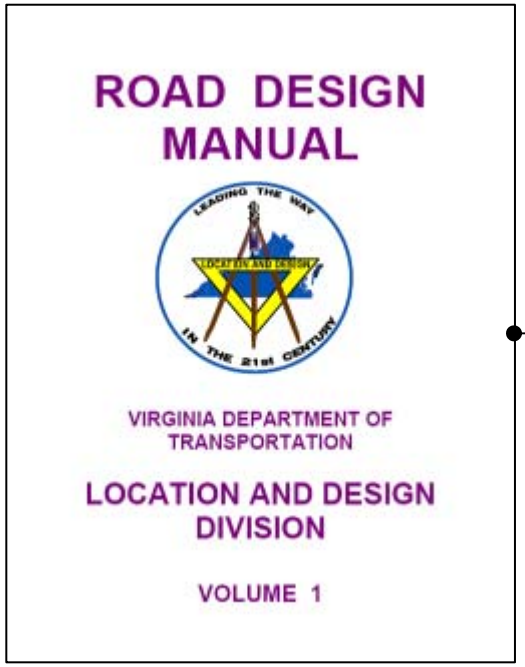
INDUSTRY STANDARDS

ITE/CNU standards generally as optimum

	OPTIMAL	MINIMUM
	12 ft	5 FT
	rear	rear
	front	front
	10 FT	6 FT
	8.5 FT	4.5 FT



ITE & CNU



VDOT

VDOT standards generally as minimum

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BEST PRACTICES REVIEW

- National & Virginia scan
  - Plans, policies and guidelines
  - Multimodal & Transit Oriented Development
  - Livability and Complete Streets

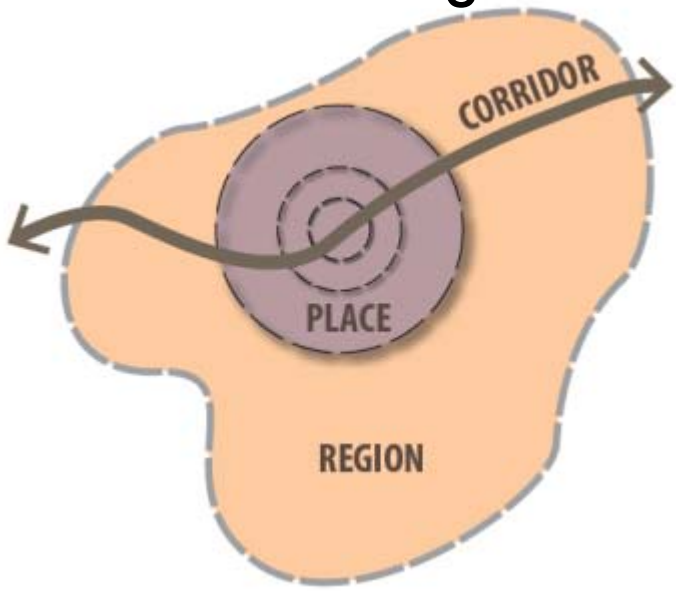
IMPORTANT BENCHMARKS

NATIONAL	VIRGINIA
ITE/CNU Walkable Thoroughfares	Transit Service Design Guidelines
CTOD Guidelines	Amtrak Station Area Plans
CALTRANS Smart Mobility	WMATA Planning Manual
Boston Street Guidelines	Vtrans 2035
San Francisco Street Guidelines	Arlington County Street Standards
New York Guidelines	Fairfax County Tyson's Area Plan
Indianapolis MPO	VDOT CSS Policies
Charlotte Urban Streets	Roanoke Street Design Guidelines

Smart Mobility 2010
A Call to Action for the New Decade
Transit Service Design Guidelines
ent of Rail and Public Transportation
November 2008
INDIANAPOLIS REGIONAL CENTER & METROPOLITAN PLANNING AREA
MULTI-MODAL CORRIDOR AND PUBLIC SPACE DESIGN GUIDELINES
Street Design Guidelines
City of Roanoke, Virginia

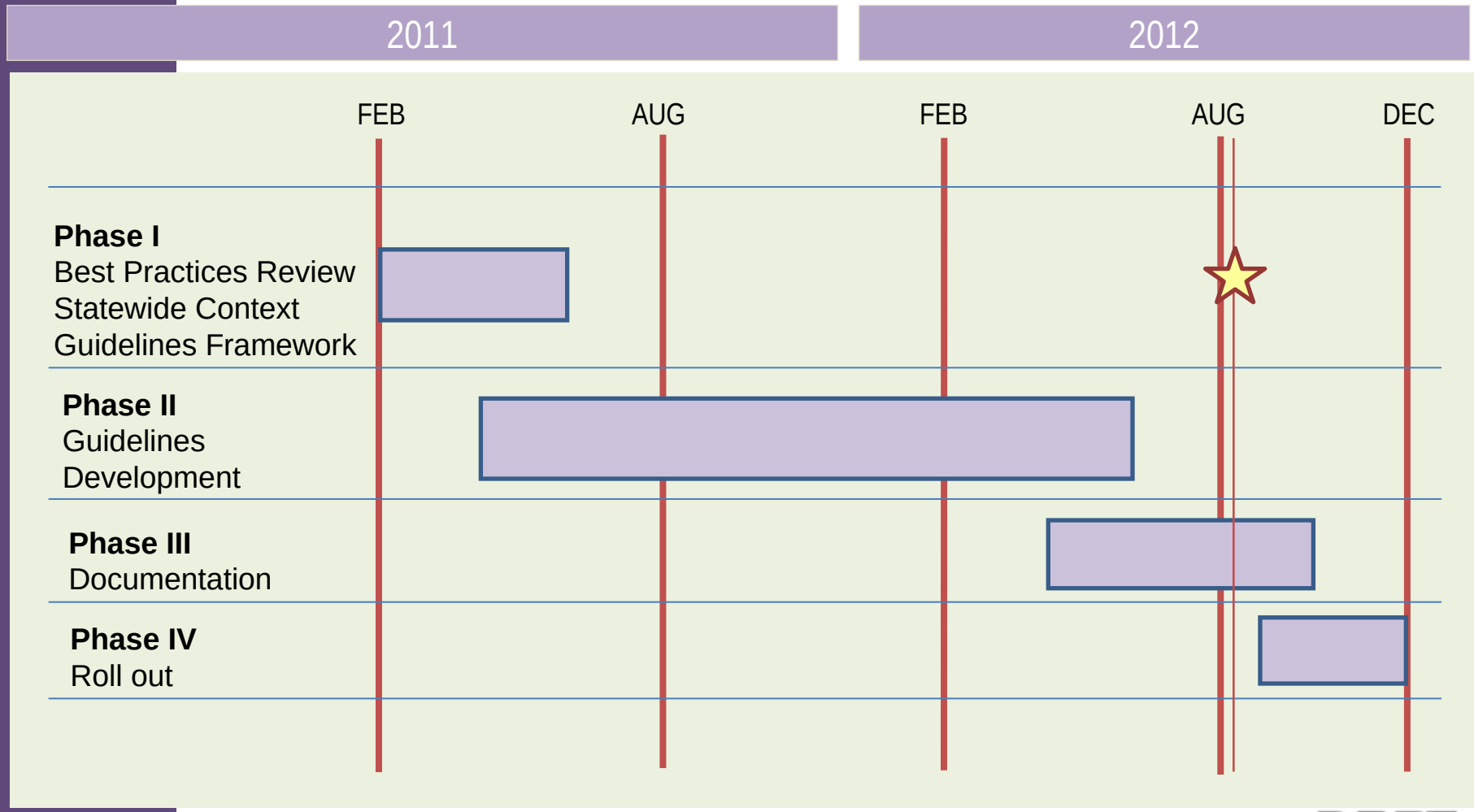
KEY FINDINGS

- Very few Statewide Multimodal Guidelines
- Most Guidelines deal with Streets – some with Placetypes
- No Guidelines at the State level that combine Regional, Place and Corridor Planning



PROJECT OVERVIEW

- Four major phases over 2 years



PREVIEW:

SELECTED SECTIONS OF GUIDELINES (WORK IN PROGRESS)

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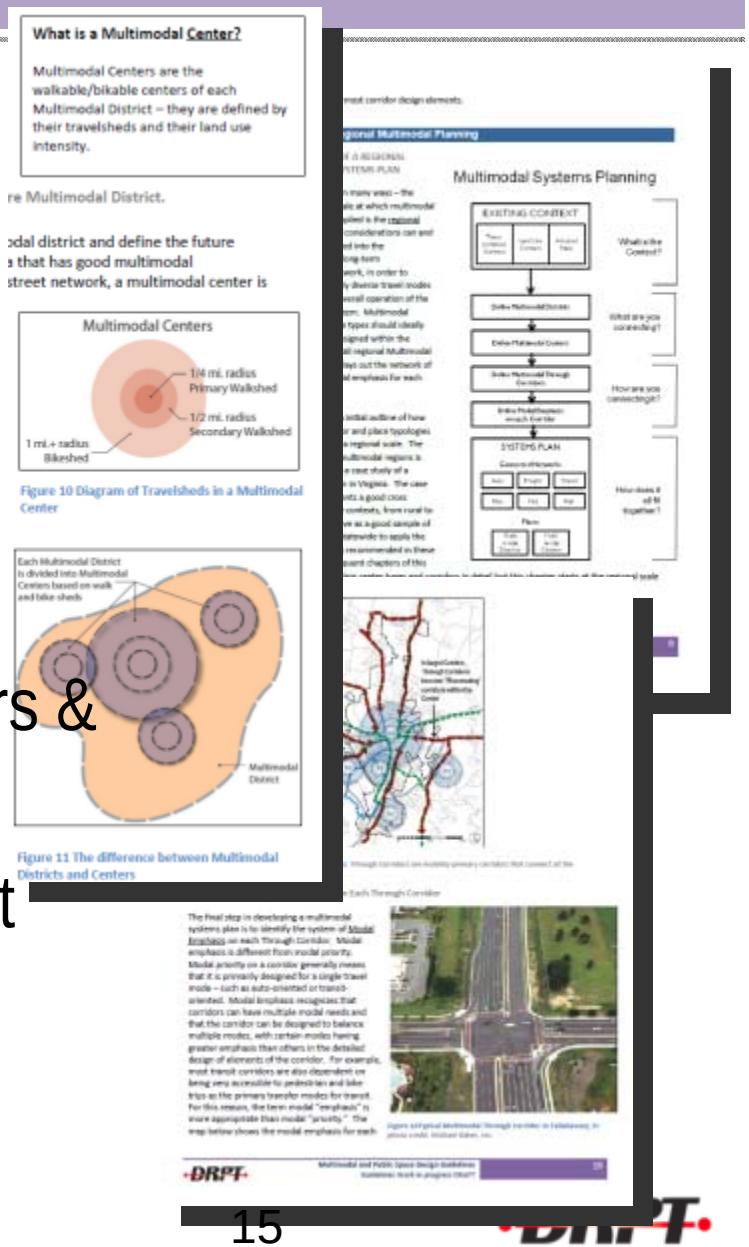
GUIDELINES CONTENTS

- How to plan for Multimodal:
  - Regions
  - Centers
  - Corridors
  - Intersections
- TOD and Transit Corridors
- “Evolving” Multimodal Centers & Corridors over time
- Travel Demand Management
- Implementation

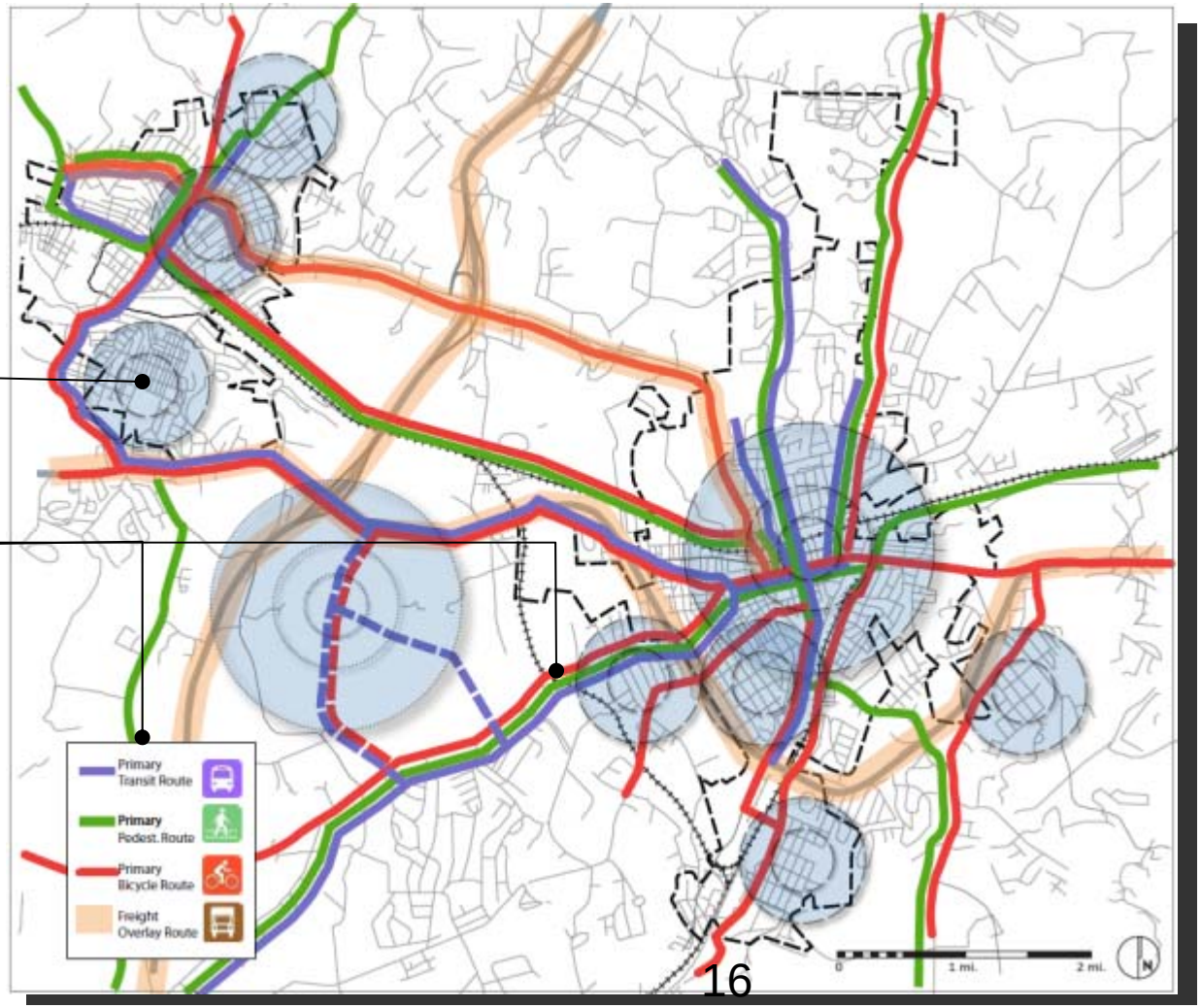

What is a Multimodal Center?
Multimodal Centers are the walkable/bikable centers of each Multimodal District – they are defined by their travelsheds and their land use intensity.
Multimodal Centers
1/4 mi. radius Primary Walkshed
1/2 mi. radius Secondary Walkshed
1 mi.+ radius Bikeshed
Figure 10 Diagram of Travelsheds in a Multimodal Center
Multimodal District
Figure 11 The difference between Multimodal Districts and Centers
Multimodal Systems Planning
DRPT

CHAPTER 2: MULTIMODAL REGIONS

Example of a Multimodal Systems Plan

Multimodal Centers

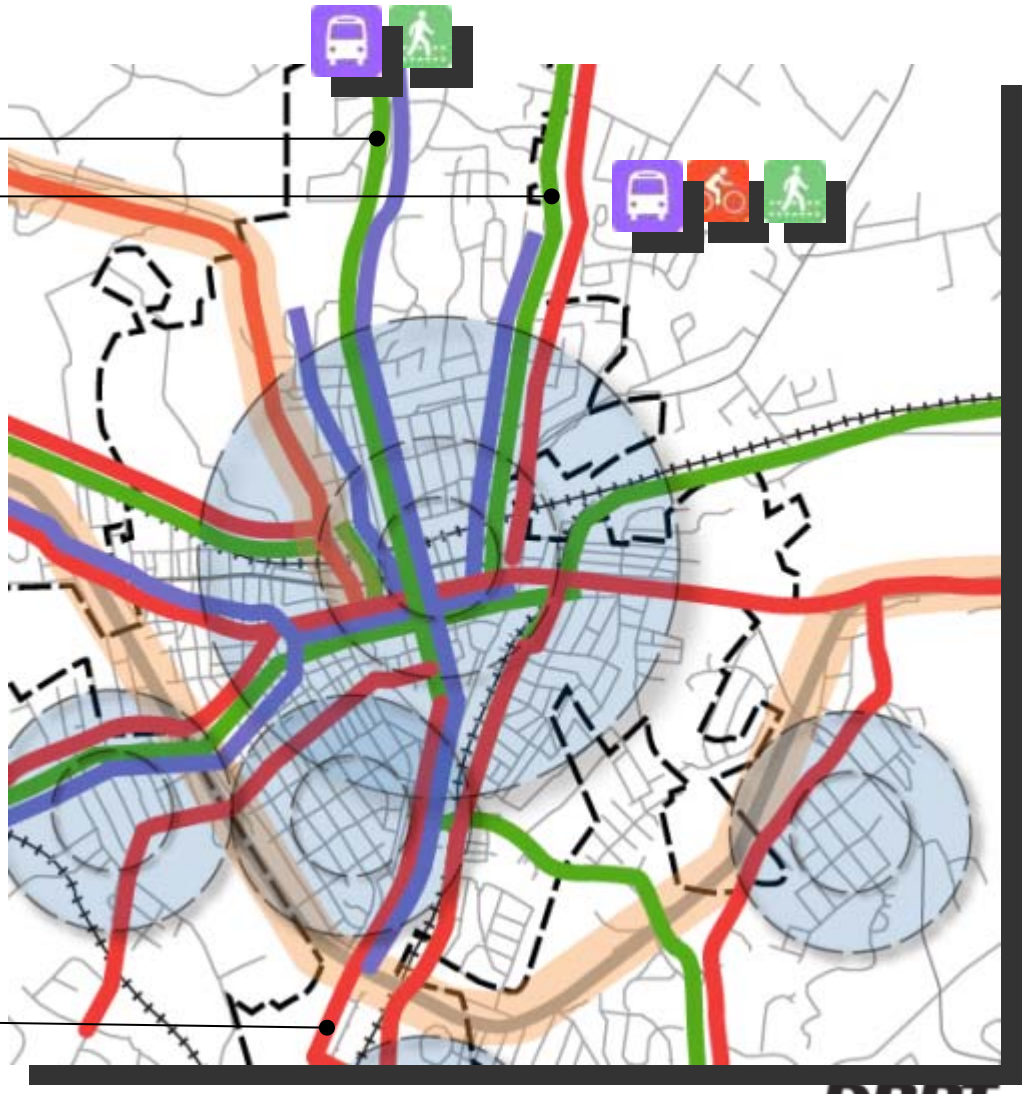
Multimodal Corridors (with "Modal Emphasis")



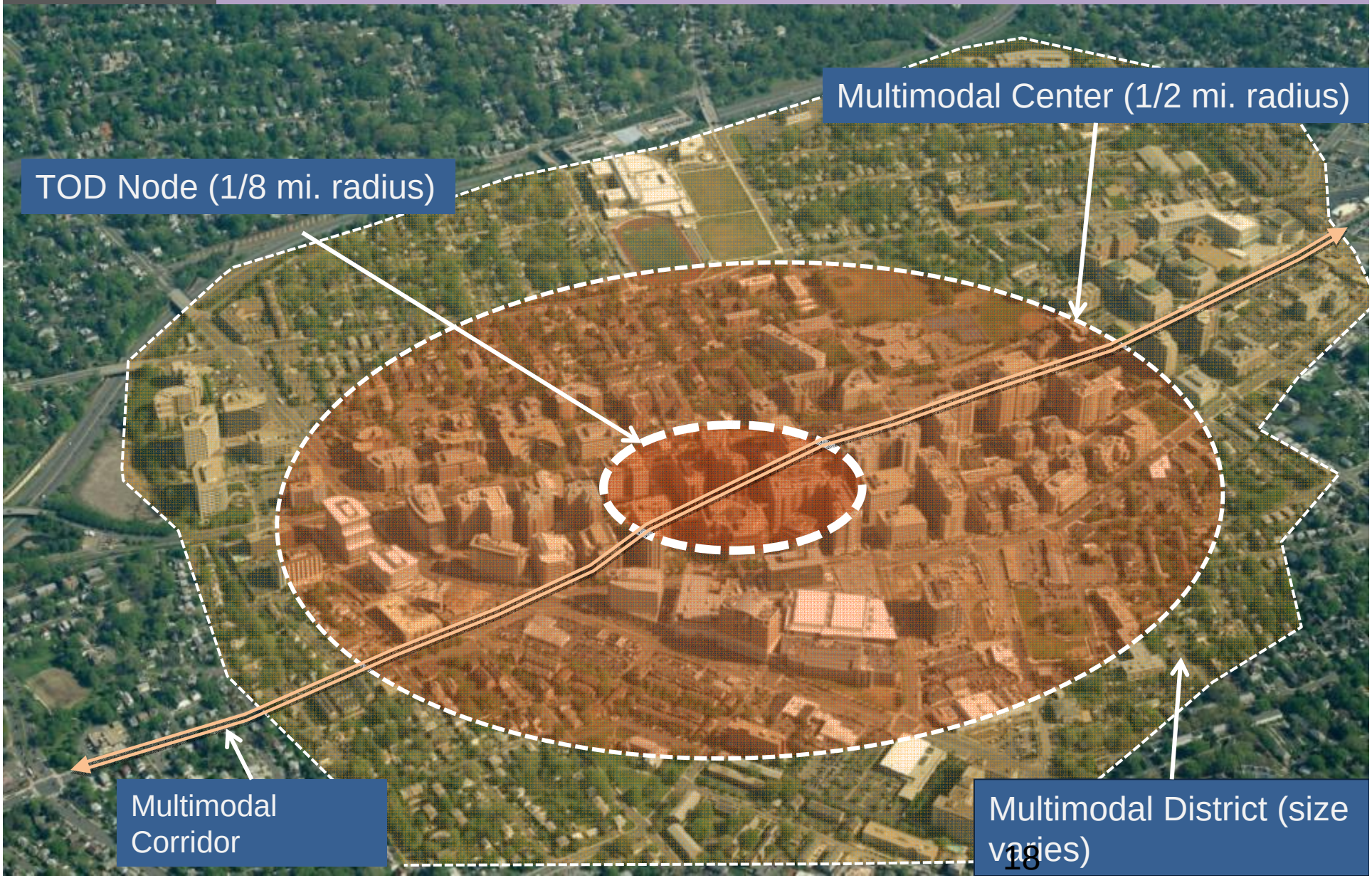
EXAMPLE OF A MULTIMODAL SYSTEMS PLAN

Each Corridor has a Modal Emphasis based on the Systems Plan

Corridors continue their Modal Emphasis as they go through different centers in a region



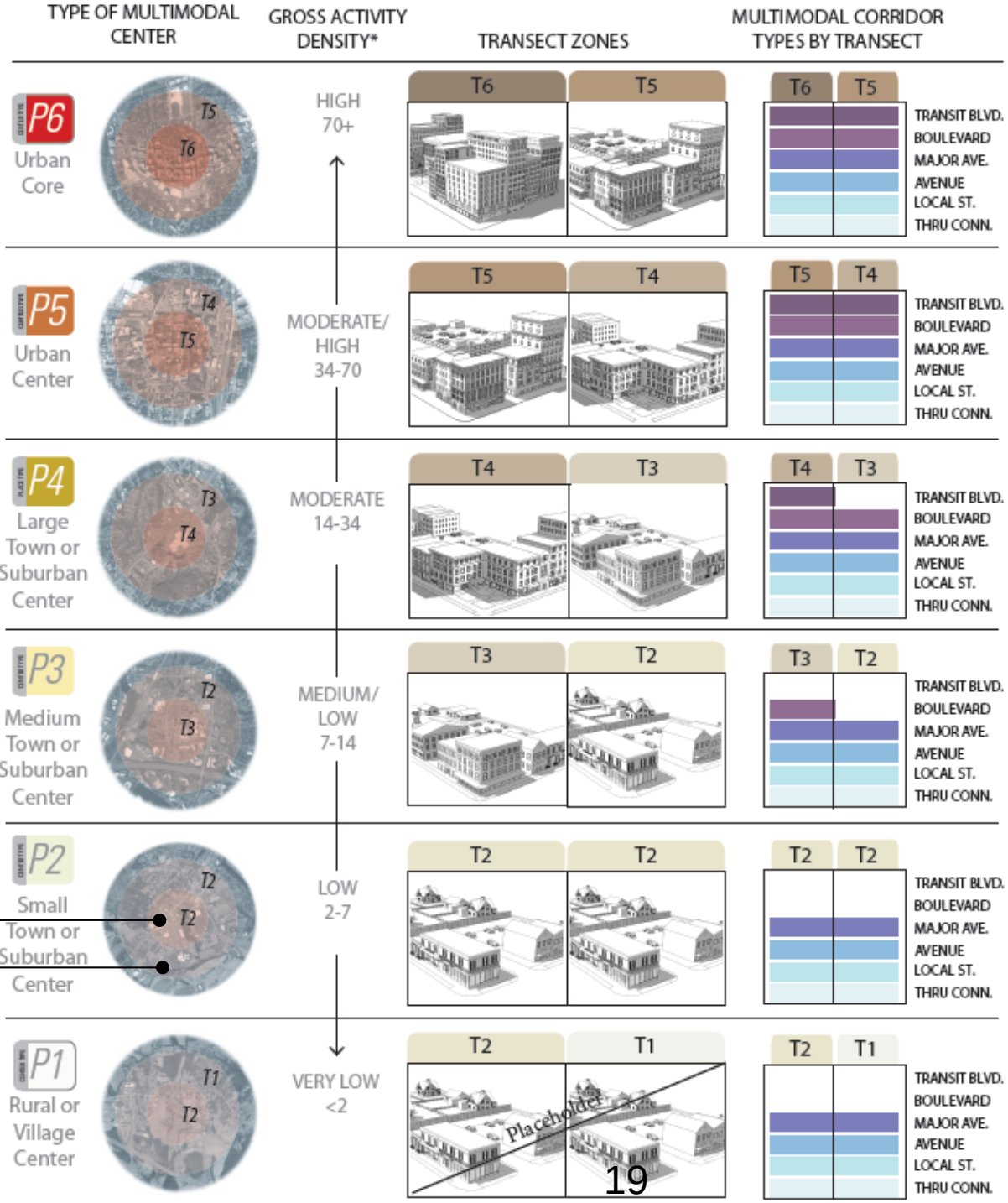
CHAPTER 3: MULTIMODAL CENTERS



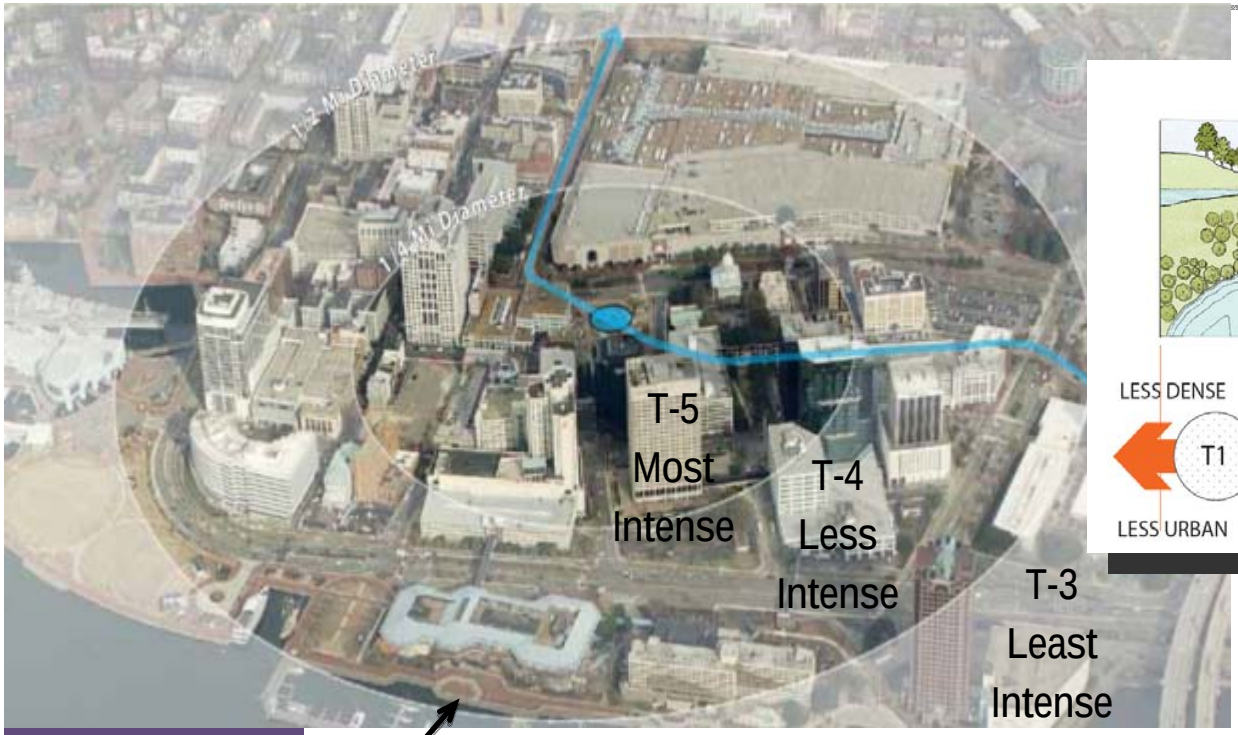
MULTIMODAL CENTER TYPES

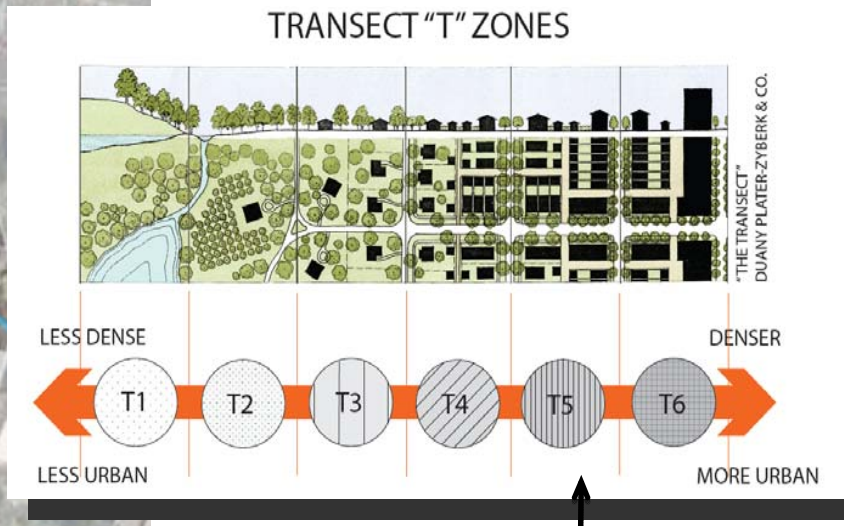
There are 7 types of Multimodal Centers based on different intensities from rural to urban

Each Center Type has different densities in the core and edges, based on TRANSECT ZONES



MULTIMODAL CENTERS – DEVELOPMENT INTENSITY





The Travelsheds also define intensity of development from center to edge in each Multimodal Center

TRANSECT ZONE INTENSITY			
Transect Zone	Activity Density (Jobs + people/acre)	Gross Development FAR (residential + non-residential)	Net Development FAR (residential + non-residential)
T1	1 or less	0.01 or less	0.02 or less
T2	1 to 10	0.01 to 0.15	0.02 to 0.23
T3	10 to 25	0.15 to 0.37	0.23 to 0.57
T4	25 to 60	0.37 to 0.9	0.57 to 1.38
T5	60 to 100	0.9 to 1.49	1.38 to 2.3
T6	100 or more	1.49 or more	2.3 or more

The TRANSECT is a standard way of defining INTENSITY of places. There are 6 TRANSECT ZONES used in these guidelines to define the intensity of Multimodal Centers

EXISTING CENTERS IN VIRGINIA

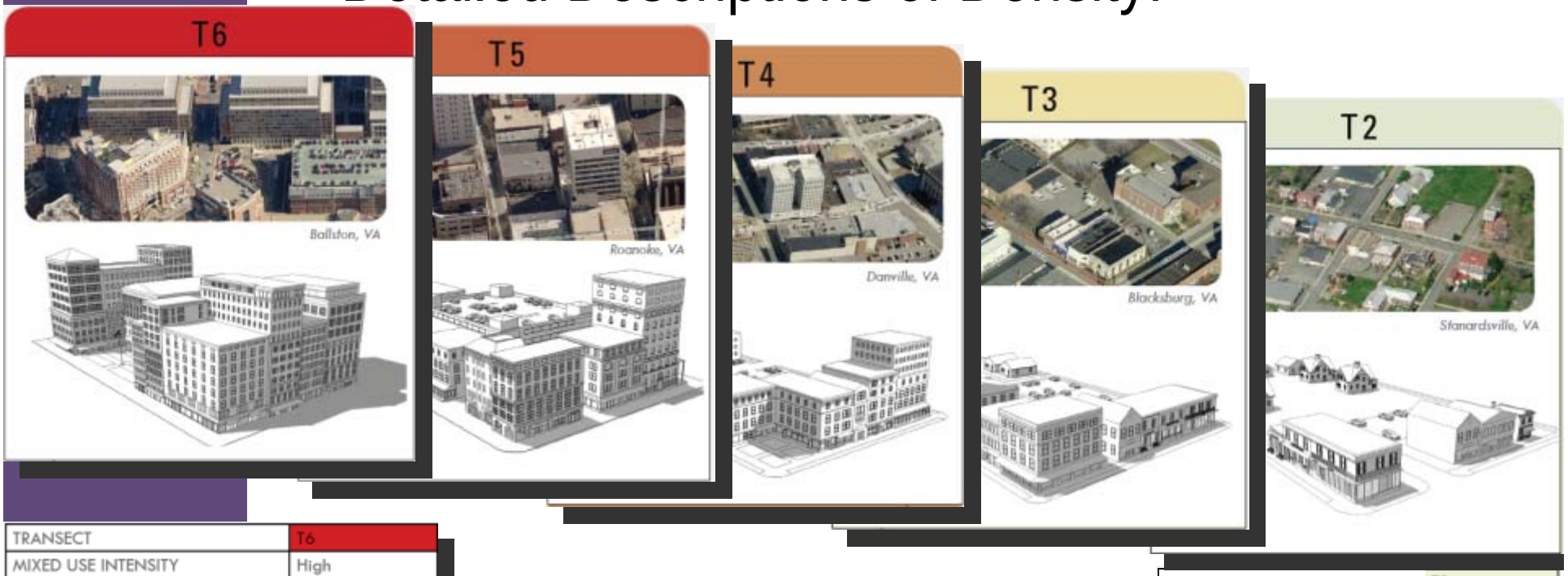
One mile circles were placed over a variety of places in Virginia and population/employment totals were calculated within each circle.

The scores show how the places can be organized by their Center Types

Potential Multimodal Center (1 mile diameter)	Employment (2008)	Population (2010)	Population/ Employment Ratio	Total Activity Units (Jobs + People)	Activity Units/Acre	Multimodal Center Type
Tysons Corner	50,491	419	0.01	50,910	101	P6 Urban Core
Ballston	27,902	14,202	0.51	42,104	84	
Rosslyn	24,385	16,688	0.68	41,073	82	
Crystal City	24,704	12,377	0.50	37,081	74	
Norfolk	30,917	4,582	0.15	35,499	71	
Alexandria	15,587	9,489	0.61	25,076	50	P5 Urban Center
Clarendon	13,231	10,598	0.80	23,829	47	
Richmond	14,513	8,989	0.62	23,502	47	
Charlottesville	12,496	4,046	0.32	16,542	33	P4 Large Town or Suburban Center
Roanoke	12,956	2,295	0.18	15,251	30	
Fairfax	10,088	4,488	0.44	14,576	29	
Blacksburg	10,360	3,709	0.36	14,069	28	
Winchester	4,581	4,933	1.08	9,514	19	
Reston	2,406	6,134	2.55	8,540	17	
Fredericksburg	4,918	3,143	0.64	8,061	16	
Manassas	2,371	3,965	1.67	6,336	13	P3 Medium Town or Suburban Center
Salem	2,910	3,205	1.10	6,115	12	
Petersburg	4,038	2,035	0.50	6,073	12	
Staunton	2,536	3,300	1.30	5,836	12	
Front Royal	2,525	3,211	1.27	5,736	11	
Newport News	3,555	2,027	0.57	5,582	11	
Bristol	4,033	1,245	0.31	5,278	11	
Virginia Beach	2,509	2,034	0.81	4,543	9	
Galax	2,581	1,326	0.51	3,907	8	
Dunn Loring	854	2,382	2.79	3,236	6	
South Boston	871	1,185	1.36	2,056	4	P2 Small Town or Suburban Center
Crozet	284	1,697	5.98	1,981	4	
Chester	704	883	1.25	1,587	3	
Lake Monticello	6	1,187	197.83	1,193	2	
Bluefield	388	768	2	1,156	2	
Timberlake	409	717	2	1,126	2	
Aquia Harbour	1	742	742	743	1	P1 Rural or Village Center
Forest	484	115	0	599	1	
Poquoson	6	577	96	583	1	
Great Falls	1	455	455	456	1	

MULTIMODAL CENTERS

- Detailed Descriptions of Density:



TRANSECT	T6
MIXED USE INTENSITY	High
ACTIVITY DENSITY (jobs + HH/ac)	100+/ac
AVG. BLDG. HEIGHT	8+ Stories
TYPICAL MAX BLDG. HEIGHT	20+ Stories
TYPICAL NET FAR	2.3+
TYPCIAL NET RESIDENTIAL DENSITY	
SUPPORTED TRANSIT TECHNOLOGY	LRT/Rail

	T5
INTENSITY	Moderate/High
ENSITY (jobs + HH/ac)	60/ac-100/ac
HEIGHT	5-8 Stories
AX BLDG. HEIGHT	12 Stories
T FAR	1.38 - 2.30
T RESIDENTIAL DENSITY	
SUPPORTED TRANSIT TECHNOLOGY	BRT/LRT

	T4
	Moderate
	25/ac-60/ac
	3-5 Stories
HEIGHT	8 Stories
	0.57-1.38
NTIAL DENSITY	
	Express Bus

TRANSECT	T3
Y	Medium-Low
	10/ac-25/ac
	2-4 Stories
EIGHT	5 Stories
	0.23-0.57
TIAL DENSITY	
	Fixed Route Bus

	T2
	Low
	1/ac-10/ac
	1-2 Stories
GHT	3 Stories
	0.02-0.23
L DENSITY	
	Demand Response

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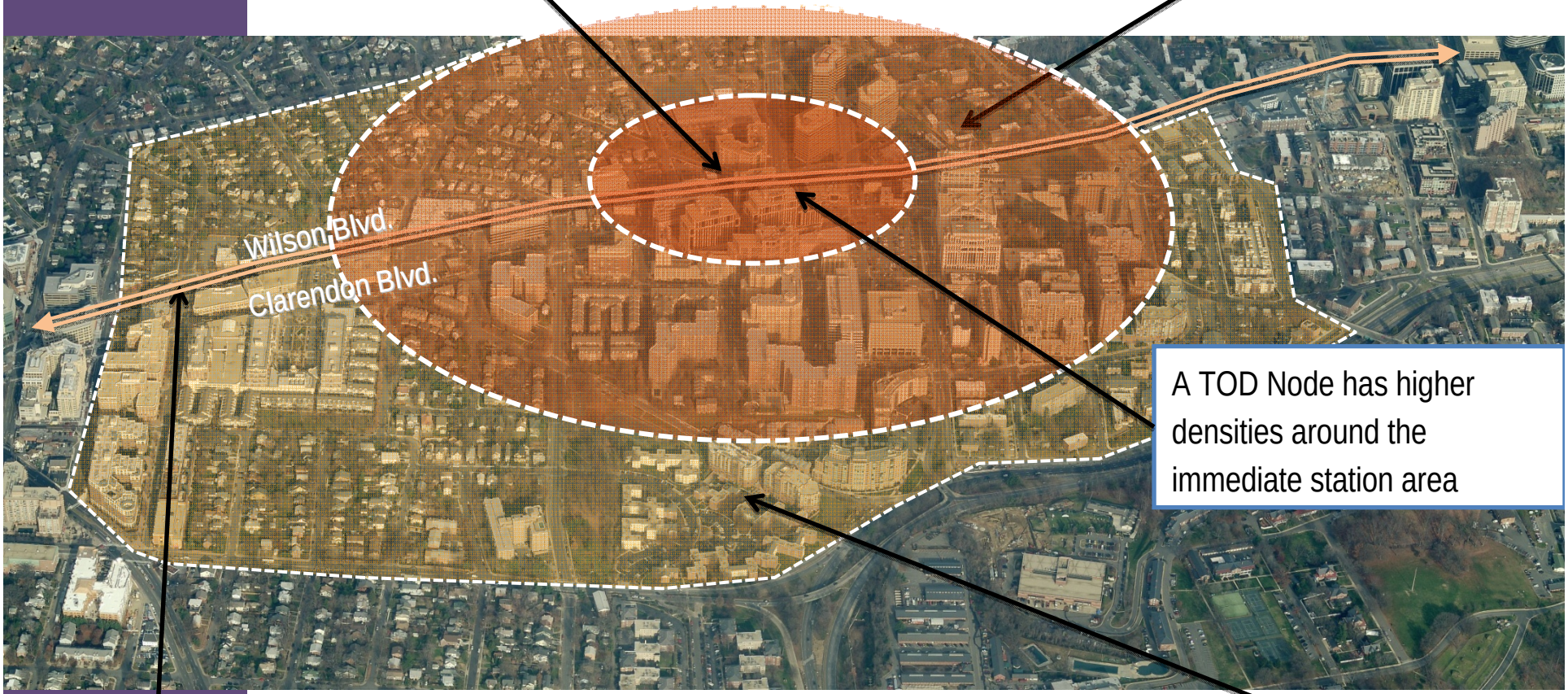
CHAPTER 4: TRANSIT AND TOD

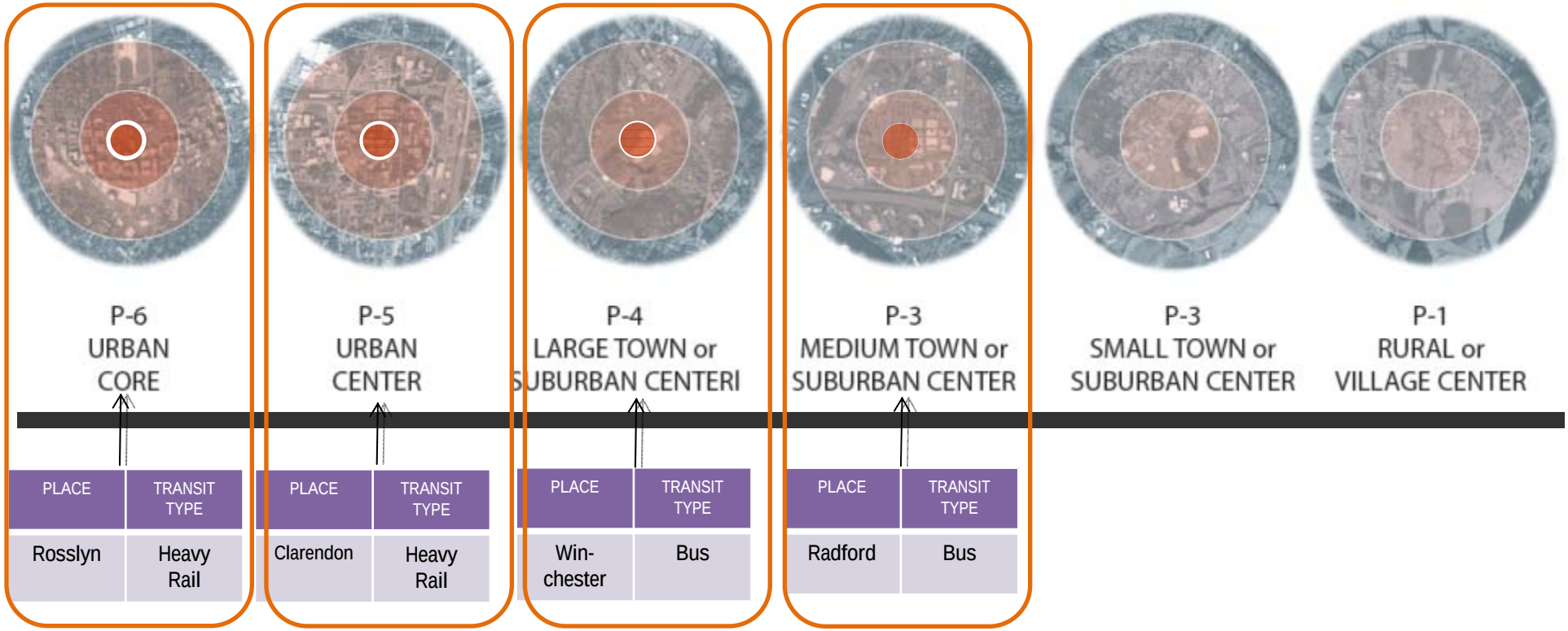

TOD Node (1/8 mi. radius)
Multimodal Center (1/2 mi. radius)
Wilson Blvd.
Clarendon Blvd.
A TOD Node has higher densities around the immediate station area
Multimodal Corridor
Multimodal District (size varies)

DRPT TRANSIT SERVICE GUIDELINES

MULTIMODAL CENTER INTENSITY		
Center Type	**Activity Density (Jobs + people/acre)**	**Supported Transit Technology**
P1 Rural or Village Center	2.13 or less	Demand Response
P2 Small Town or Suburban Center	2.13 to 6.63	Demand Response
P3 Medium Town or Suburban Center	6.63 to 13.75	Fixed Route Bus
P4 Large Town or Suburban Center	13.75 to 33.75	Express Bus
P5 Urban Center	33.75 to 70.0	BRT/LRT
P6 Urban Core	70.0 or more	LRT/Rail

DRPT's Transit Service Guidelines were used to develop the Transit Supportiveness of each Multimodal Center Type

WHICH MULTIMODAL CENTERS HAVE TOD NODES?



MULTIMODAL CENTERS ALONG A CORRIDOR

Green = Potential Multimodal Districts

Red = TOD Nodes

Blue = Multimodal Centers

Height represents Activity Density of each parcel in the corridor – note intensity of Rosslyn to Ballston corridor

This is the Orange Line corridor along Wilson Blvd and Rt. 66 in Arlington and Fairfax Counties

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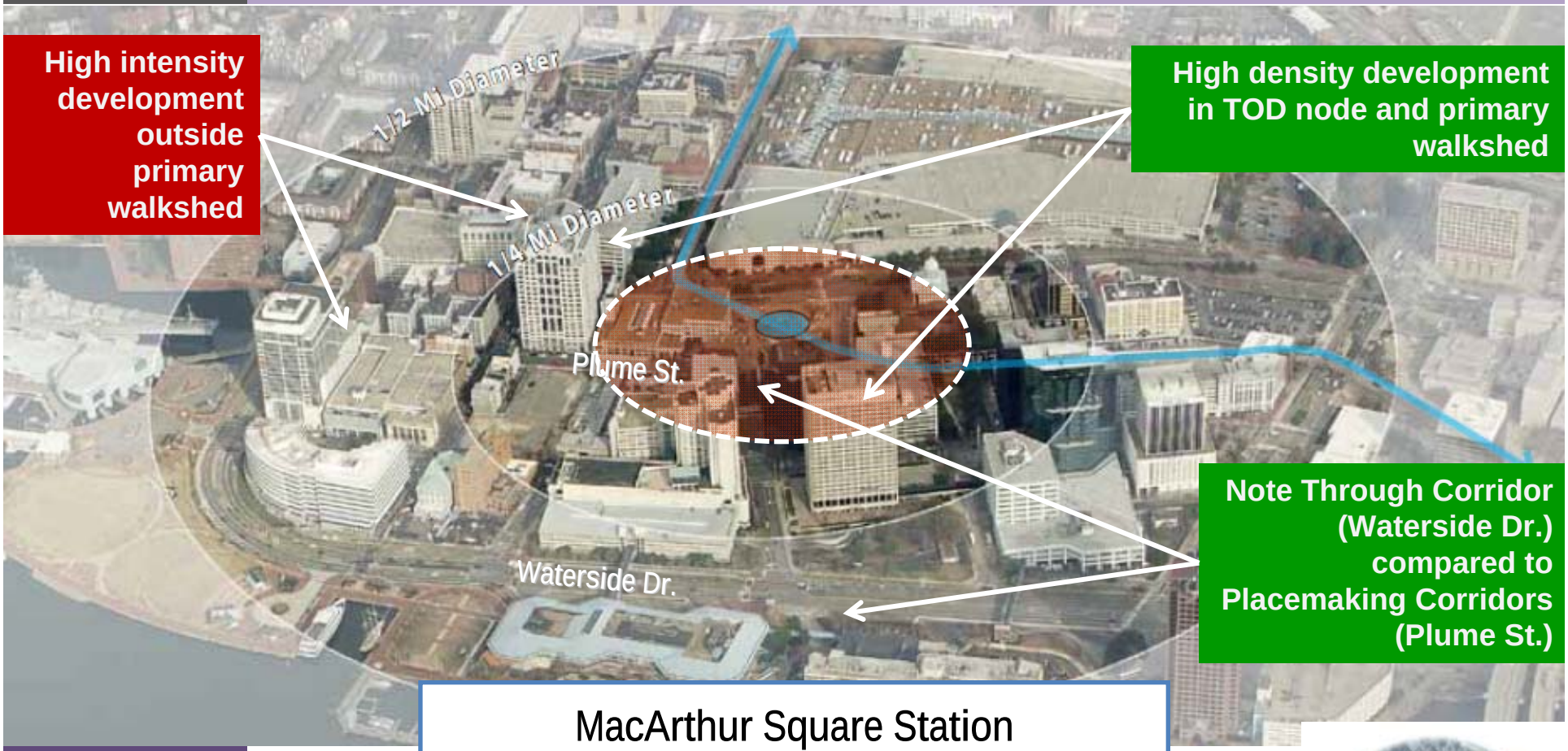
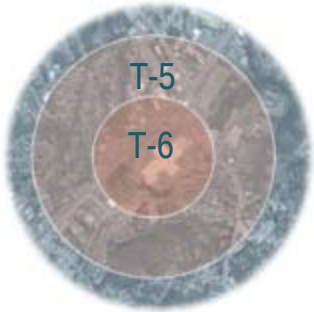
LOOKING AT TOD NODES


High intensity development outside primary walkshed
1/2 Mi Diameter
1/4 Mi Diameter
High density development in TOD node and primary walkshed
Plume St.
Note Through Corridor (Waterside Dr.) compared to Placemaking Corridors (Plume St.)
Waterside Dr.
MacArthur Square Station



P-6 Urban Core

CHAPTER 6: MULTIMODAL CORRIDORS

Multimodal Centers

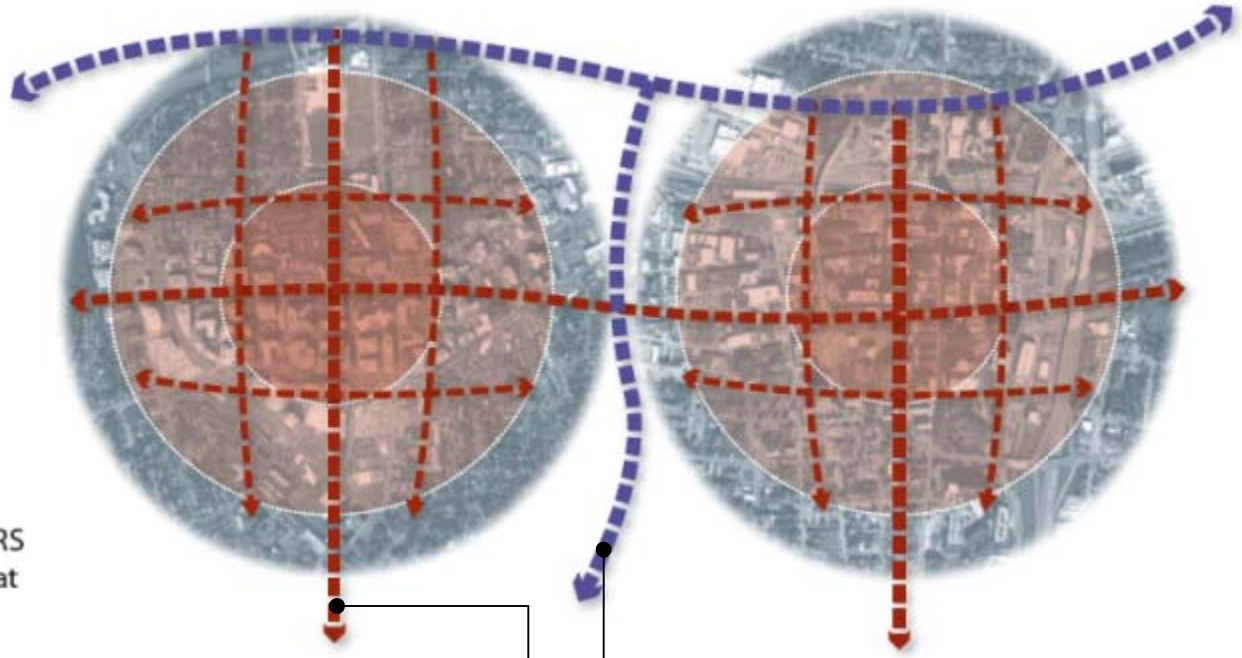
1/4 mi. radius
Primary Walkshed

1/2 mi. radius
Secondary Walkshed

Multimodal Corridors

THROUGH CORRIDORS
Modertae speed corridors that connect the Multimodal Centers

PLACEMAKING CORRIDORS
Lower speed corriodrs that conect areas within a Multimodal Center



Through Corridors connect Multimodal Centers

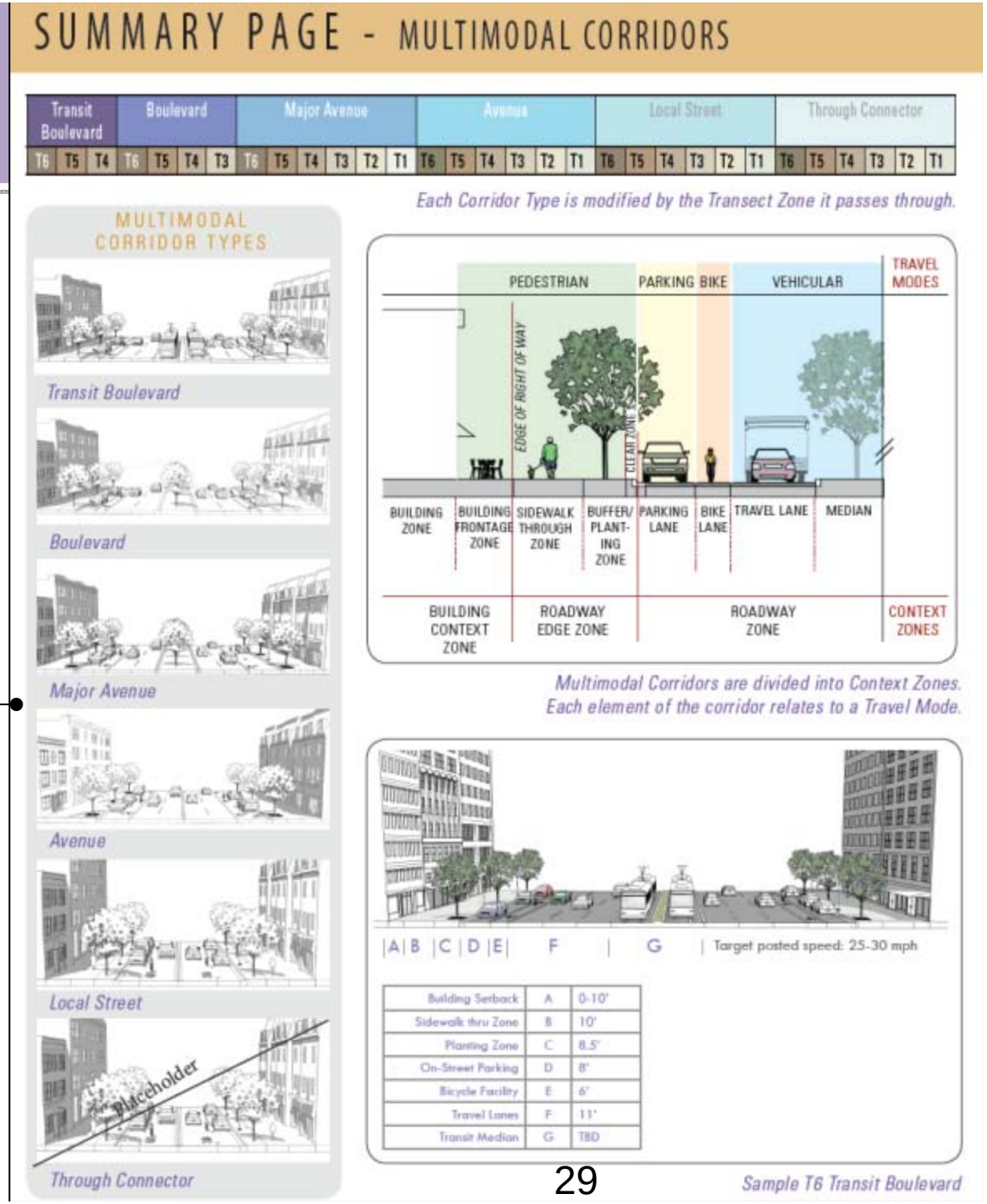
Placemaking Corridors connect areas within a Multimodal Center

MULTIMODAL CORRIDOR TYPES

There are 6 basic Corridor Types:

1.Transit Boulevard
2.Boulevard
3.Major Avenue
4.Avenue
5.Local Street
6.Through Corridor

Each Corridor Type is modified by up to 6 Transect Zones



CORRIDOR TYPE - AVENUE

Each corridor type has a one page summary of all the prototype sections (one for each Transect Zone)

AVENUE

T6

Building Setback	A	0-10'
Sidewalk thru Zone	B	8'
Planting Zone	C	6'
On-Street Parking	D	7'
Bicycle Facility	E	6'
Travel Lanes	F	11'
Median	G	n/a

Target posted speed: 25-30 mph

T5

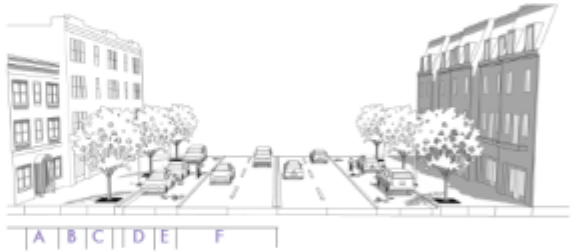
Building Setback	A	0-10'
Sidewalk thru Zone	B	8'
Planting Zone	C	6'
On-Street Parking	D	7'
Bicycle Facility	E	6'
Travel Lanes	F	11'
Median	G	n/a

Target posted speed: 25-30 mph

T4

Building Setback	A	0-15'
Sidewalk thru Zone	B	6'
Planting Zone	C	6'
On-Street Parking	D	7'
Bicycle Facility	E	6'
Travel Lanes	F	11'
Median	G	n/a

Target posted speed: 25-30 mph



T3

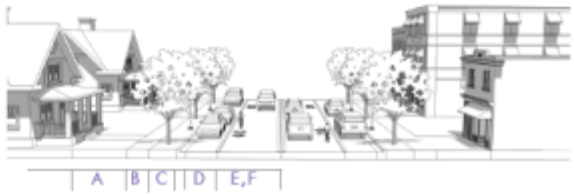
Building Setback	A	5-20'
Sidewalk thru Zone	B	6'
Planting Zone	C	6'
On-Street Parking	D	7'
Travel Lanes/ Sharrow	E,F	14'
Median	G	n/a

Target posted speed: 25-30 mph

T2

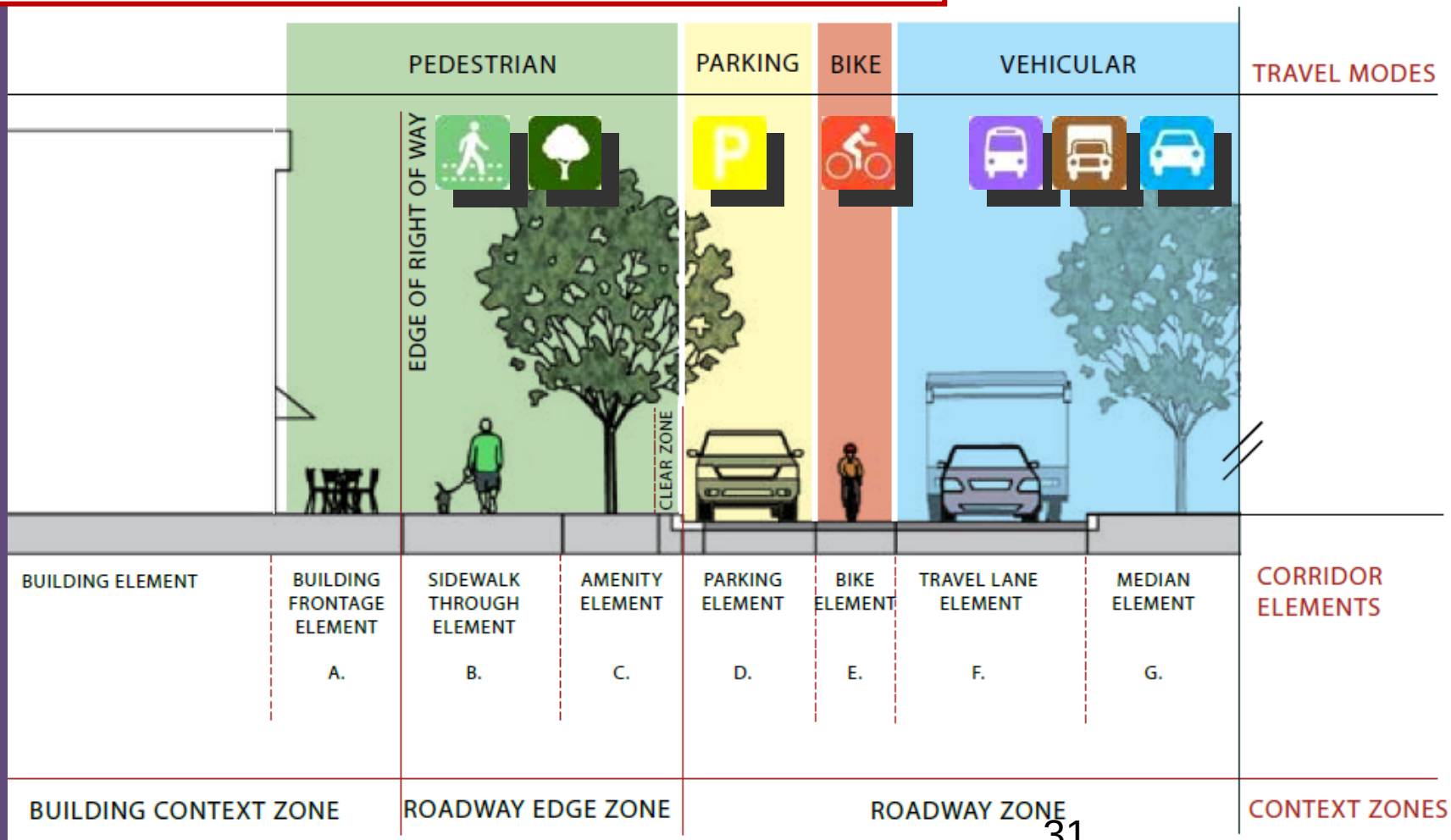
Building Setback	A	5-20'
Sidewalk thru Zone	B	5'
Planting Zone	C	6'
On-Street Parking	D	7'
Travel Lanes/ Sharrow	E,F	14'
Median	G	n/a

Target posted speed: 25-30 mph



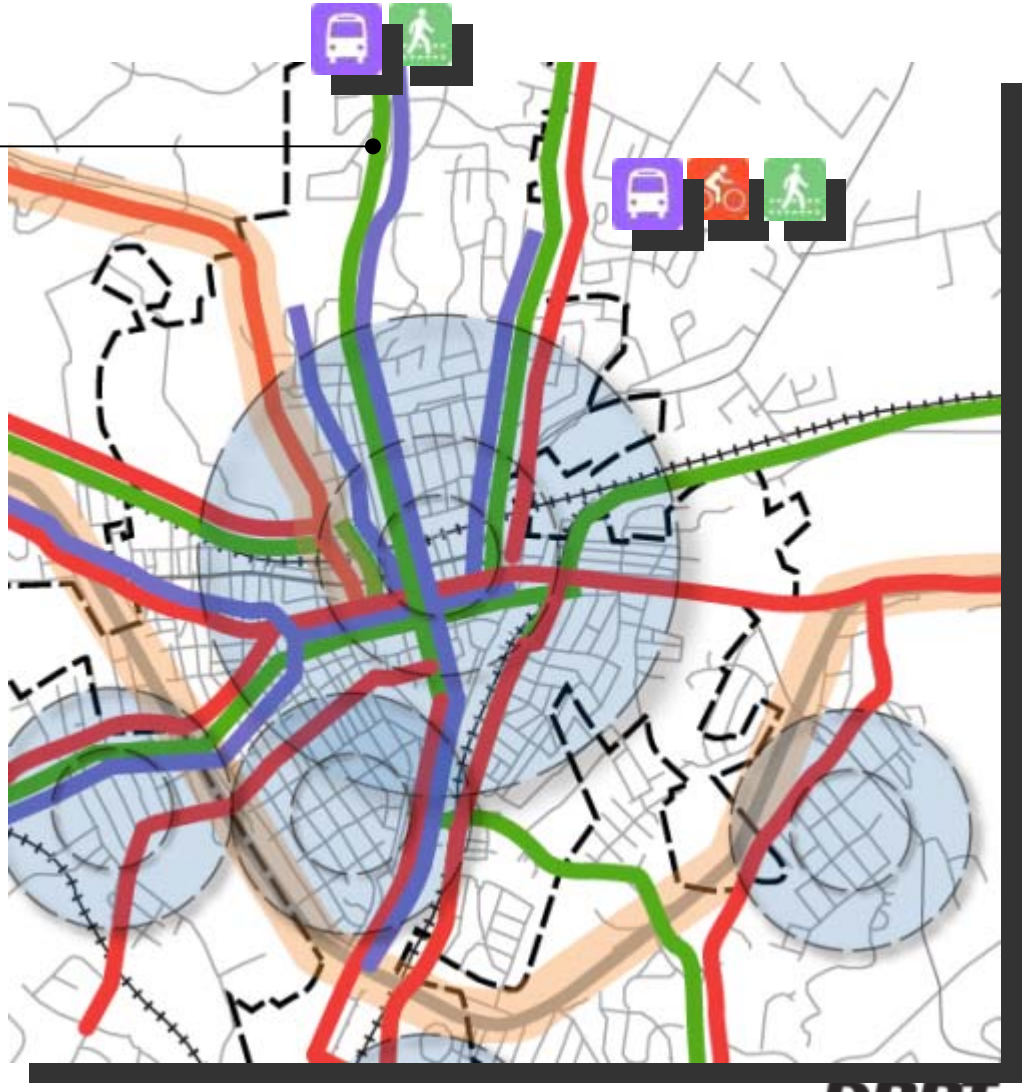
UNDERSTANDING MODAL EMPHASIS

Each “mode” has a portion of the corridor cross section allocated to it:

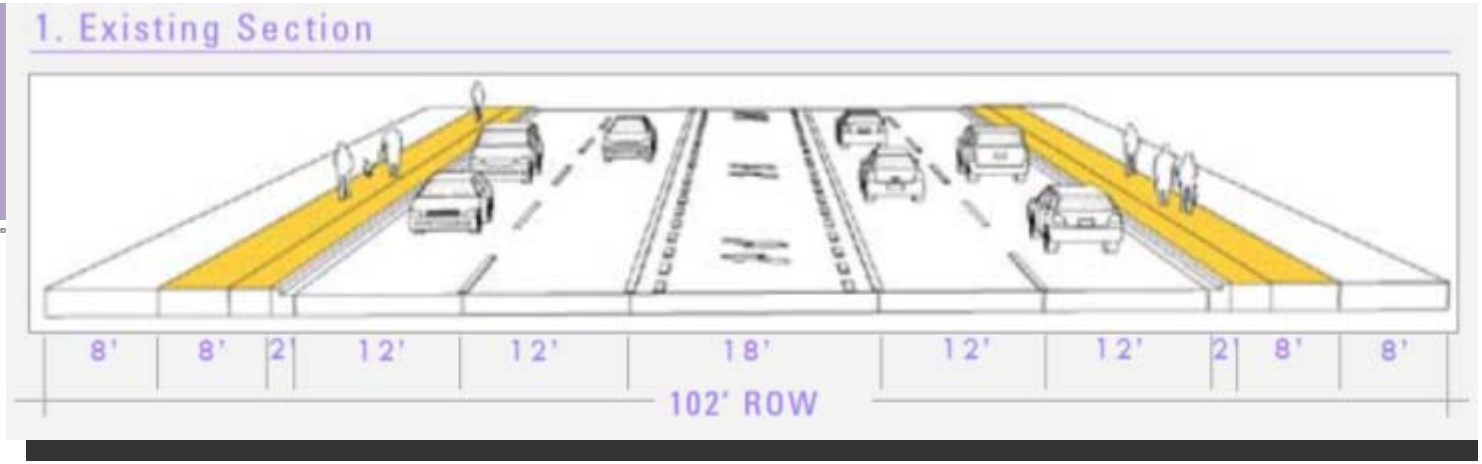


PURPOSE OF MODAL EMPHASIS

Modal Emphasis derives from the Multimodal Systems Plan and ensures that there is a connected network for each mode

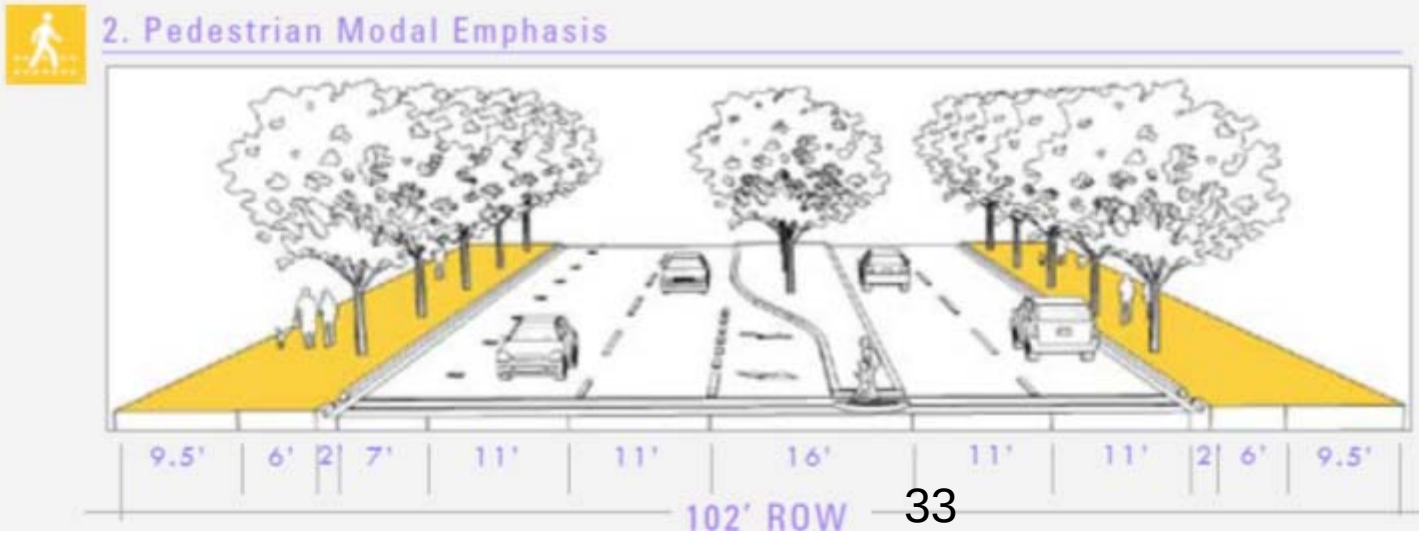


Modal Emphasis is used to build a Typical Section by adding up all the corridor elements



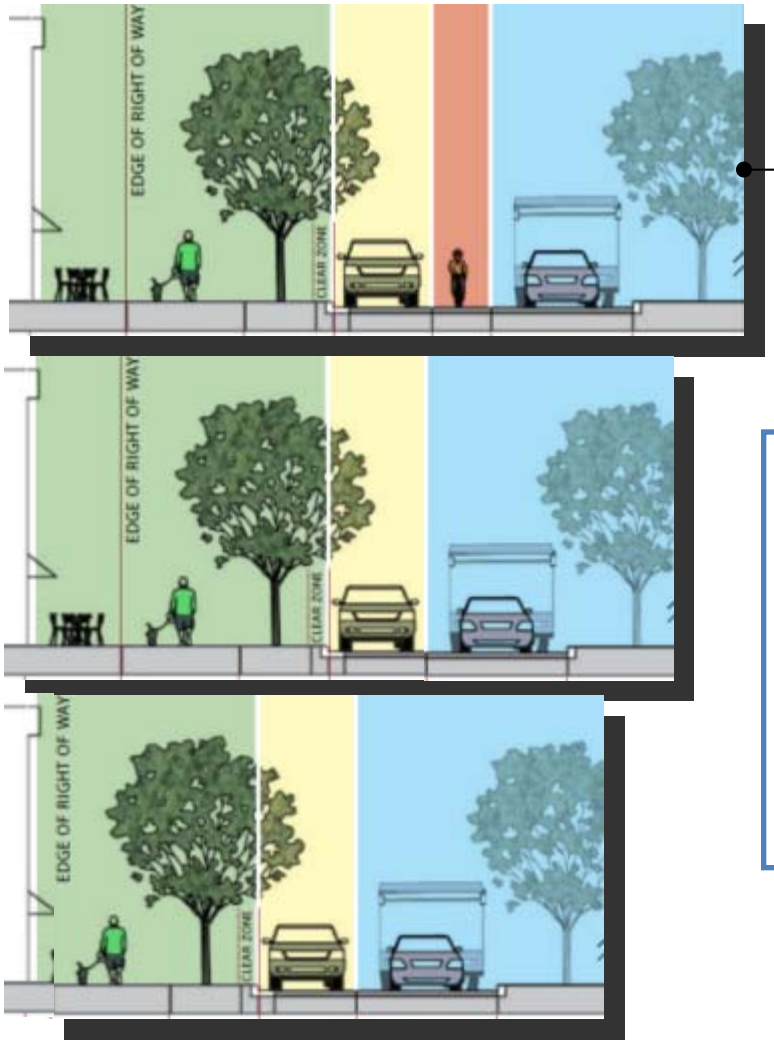
	BUILDING FRONTAGE ELEMENT	SIDEWALK THROUGH ELEMENT	AMENITY ELEMENT	PARKING ELEMENT	BIKE ELEMENT	TRAVEL LANE ELEMENT	MEDIAN ELEMENT
Optimum	5 ft	6 ft	7.5 ft	8 ft both sides	6 ft bike lane	12 ft*	19 ft
Minimum	2.5 ft	6 ft	4.5 ft	None	On parallel facility	11 ft	None
Standard Used	2.5 ft	6.5 ft	5 ft	7 ft one side	On parallel facility	12 ft	None

Step 4: Create a new typical section with Pedestrian Emphasis.



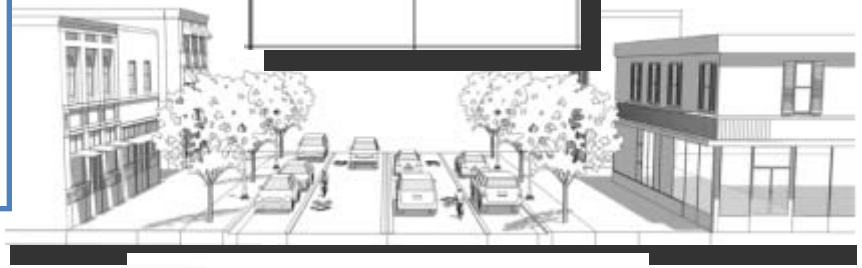
RETROFITTING EXISTING CORRIDORS

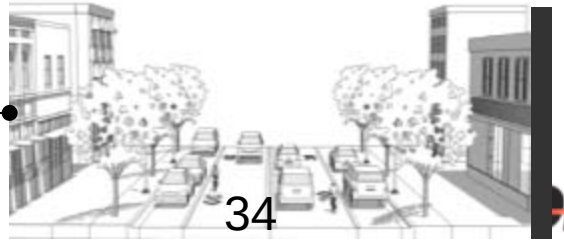
How do you retrofit a corridor with a constrained Right of Way?



Don't always have enough ROW – how to make trade-offs among Modal Elements?

OPTIMAL	MINIMUM
12 ft	5 FT
rear	rear
front	front
10 FT	6 FT
8.5 FT	4.5 FT





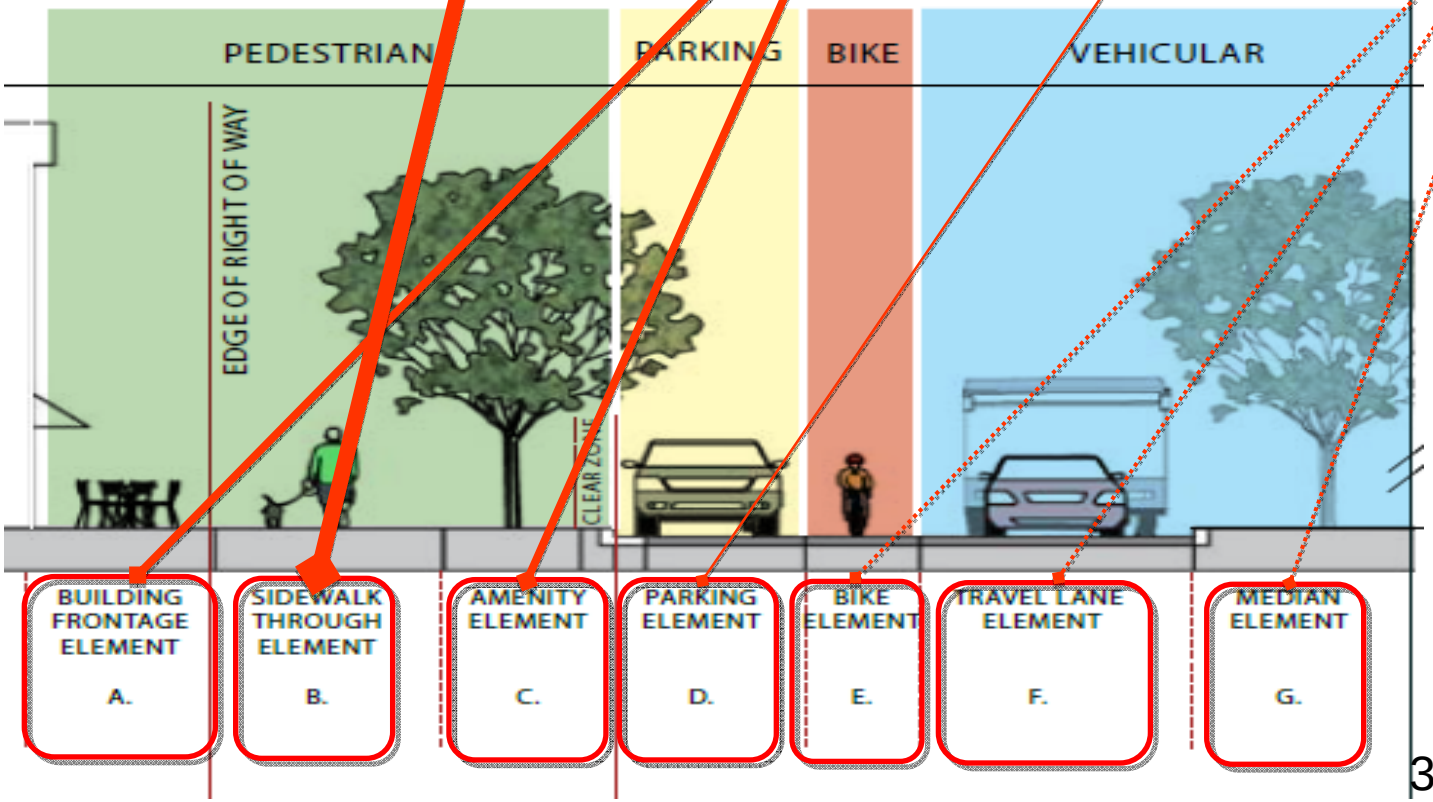
PRIORITIZING USING MODAL EMPHASIS

HOW CORRIDOR ELEMENTS ARE USED IN MODAL EMPHASIS

	MODAL EMPHASIS	PRIMARY ELEMENTS	SECONDARY ELEMENTS	CONTRIBUTING ELEMENTS	NON-CONTRIBUTING ELEMENTS
	Pedestrian	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element	D- Parking Element	E-Bicycle Element F-Travel Lane Element G-MedianElement
	Bicycle	E-Bicycle Element	N/A	C-Amenity Element	A-Building Frontage Element B-Sidewalk Through Element D-Parking Element F-Travel Lane Element G-MedianElement
	Transit	F-Travel Lane Element	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element E-Bicycle Element	D-Parking Element G-MedianElement
	Freight	F-Travel Lane Element	G-Median Element	N/A	A-Building Frontage Element B-Sidewalk Through Element C-Amenity Element D-Parking Element E-Bicycle Element
	Green	C-Amenity Element	G-Median Element	A-Building Frontage Element	B-Sidewalk Through Element D-Parking Element E-Bicycle Element F-Travel Lane Element
	Parking	D-Parking Element	N/A	E-Bicycle Element	A-Building Frontage Element B-Sidewalk Through Element C-Amenity Element F-Travel Lane Element ledianElement

PRIORITIZING USING MODAL EMPHASIS

	MODAL EMPHASIS	PRIMARY ELEMENTS	SECONDARY ELEMENTS	CONTRIBUTING ELEMENTS	NON-CONTRIBUTING ELEMENTS
	Pedestrian	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element	D- Parking Element A- Buidling Frontage Element	E-Bicycle Element F-Travel Lane Element G-MedianElement



Example:
PEDESTRIAN MODAL EMPHASIS:

From the Look Up Table, Locate the PRIMARY, SECONDARY, CONTRIBUTING and NON-CONTRIBUTING Corridor Elements

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PRIORITIZING USING MODAL EMPHASIS

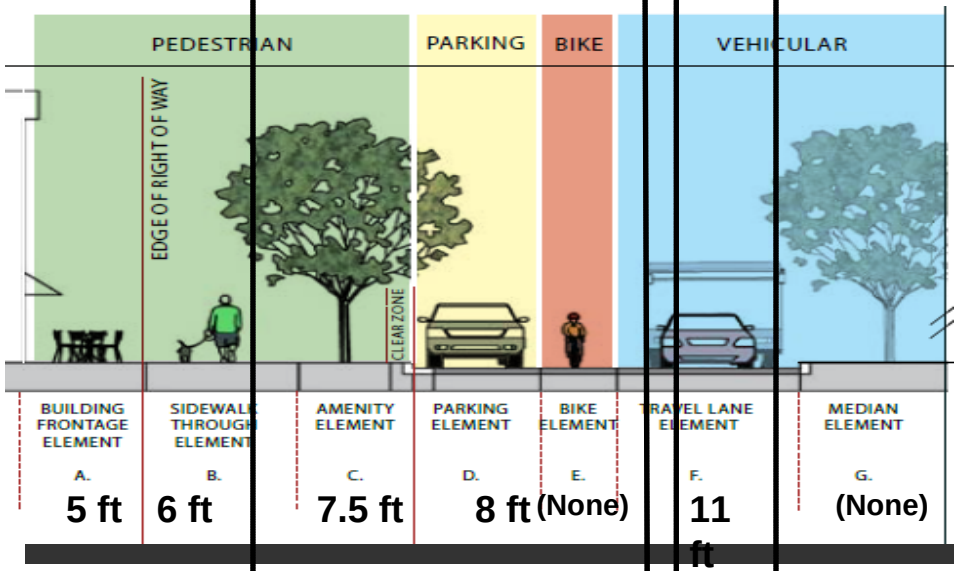
HOW TO CHOOSE DESIGN STANDARDS BASED ON MODAL EMPHASIS				
MODAL EMPHASIS	PRIMARY ELEMENTS	SECONDARY ELEMENTS	CONTRIBUTING ELEMENTS	NON-CONTRIBUTING ELEMENTS
Which Standard to Choose	Use Optimum Standard in all cases	Use Optimum Standard whenever ROW width allows	Use Optimum if ROW allows - May use Minimum if ROW is constrained	May use Minimum Standard

⇩	Context Zones & Corridor Elements ⇩		
	Building Context Zone	OPTIMAL	MINIMUM
A	BUILDING FRONTAGE ELEMENT	12 ft	5 FT
	Location of off street parking	rear	rear
	Typical building entry locations	front	front
	Roadway Edge Zone		
B	SIDEWALK THROUGH ELEMENT	10 FT	6 FT
C	AMENITY ELEMENT	8.5 FT	4.5 FT

For each category of Elements (PRIMARY, SECONDARY, etc), use a combination of OPTIMUM or MINIMUM standards according to the Look Up Table above

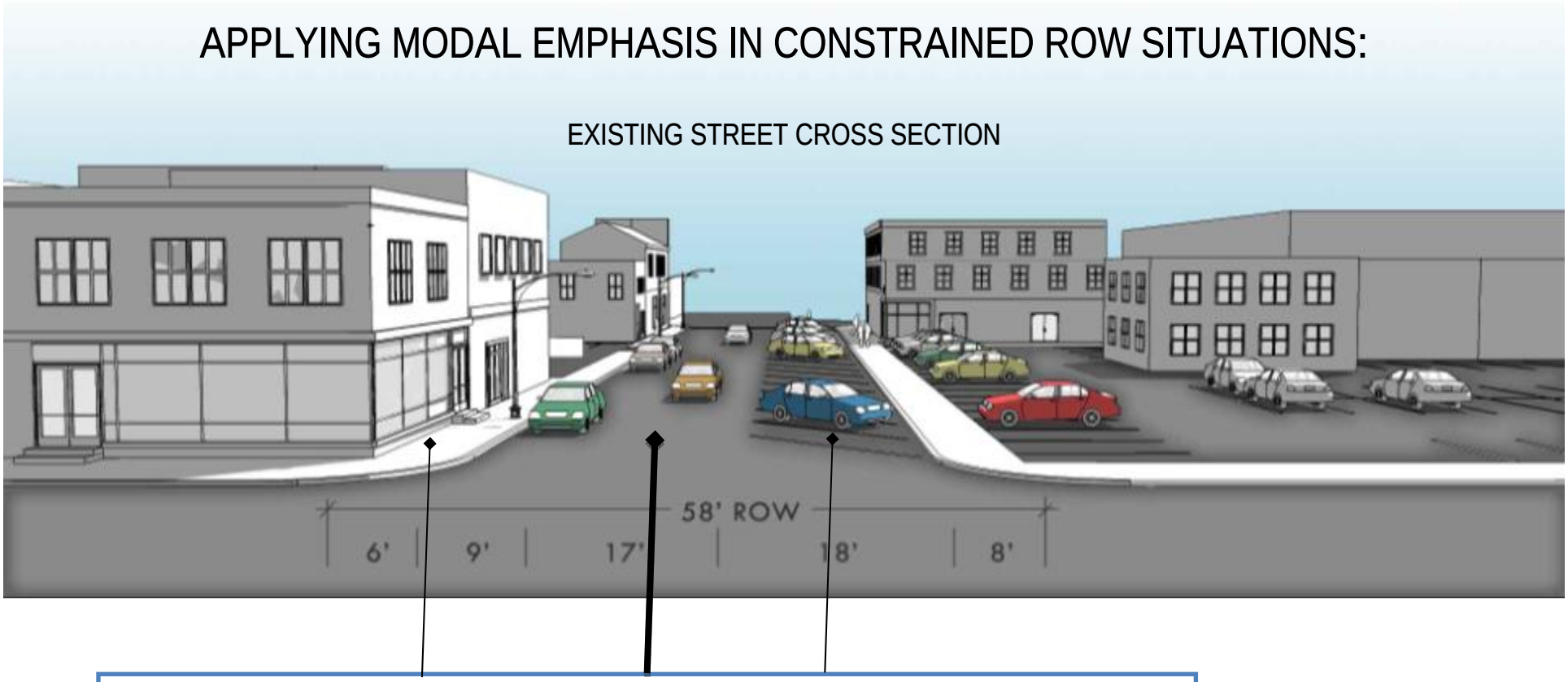
	MODAL EMPHASIS	PRIMARY ELEMENTS	SECONDARY ELEMENTS	CONTRIBUTING ELEMENTS	NON-CONTRIBUTING ELEMENTS
	Pedestrian	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element	D- Parking Element	E-Bicycle Element F-Travel Lane Element G-MedianElement

Corridor Element Key	Corridor Type	Major Avenue	
	Intensity	T-4	
	Corridor Elements	OPTIMAL	MINIMUM
	Building Context Zone		
A	BUILDING FRONTAGE ELEMENT	5 ft	2.5 ft
	Location of off street parking	rear	side
	Typical building entry locations	front	front
	Roadway Edge Zone		
B	SIDEWALK THROUGH ELEMENT	6 ft	6 ft
C	AMENITY ELEMENT	7.5 ft	4.5 ft
	Surface Treatment for Amenity Element	Paved with tree wells	Paved with tree wells
	Roadway Zone		
D	PARKING ELEMENT	8 ft both sides	None
E	BIKE ELEMENT	6 ft bike lane	On parallel facility
F	TRAVEL LANE ELEMENT	12 ft*	11 ft
	Target Speed	30 - 35 mph	
	Number of Through Lanes (not including parking lanes)	2 to 4	
	Typical Traffic Volume Range (vehicles per day)	5,000 to 25,000	
G	MEDIAN ELEMENT	19 ft	None



APPLYING MODAL EMPHASIS IN CONSTRAINED ROW SITUATIONS:

EXISTING STREET CROSS SECTION

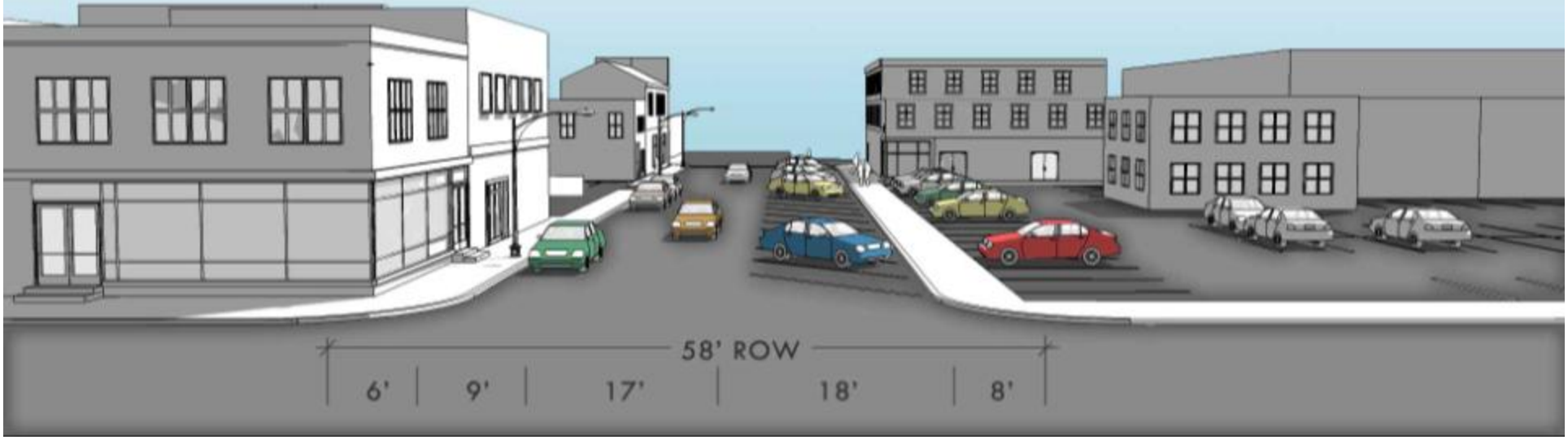


EXISTING:

Primarily Auto Emphasis - secondary emphasis on Parking & Pedestrians

APPLYING MODAL EMPHASIS IN CONSTRAINED ROW SITUATIONS:

EXISTING STREET CROSS SECTION



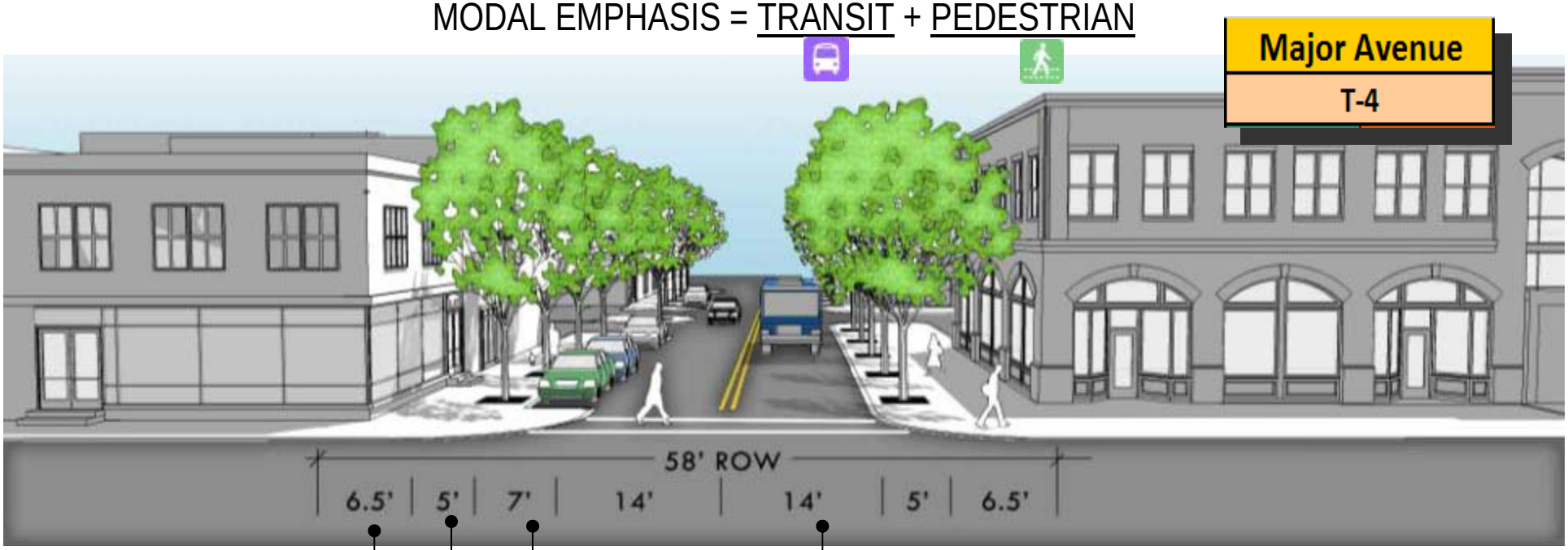
PROPOSED CORRIDOR TYPE: T-4 MAJOR AVENUE

PROPOSED MODAL EMPHASIS: PEDESTRIAN + TRANSIT

	MODAL EMPHASIS	PRIMARY ELEMENTS	SECONDARY ELEMENTS	CONTRIBUTING ELEMENTS	NON-CONTRIBUTING ELEMENTS
	Pedestrian	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element	D- Parking Element	E-Bicycle Element F-Travel Lane Element G-MedianElement
	Transit	F-Travel Lane Element	B-Sidewalk Through Element	A-Building Frontage Element C-Amenity Element E-Bicycle Element	D-Parking Element G-MedianElement

BUILDING THE PROPOSED CROSS SECTION:

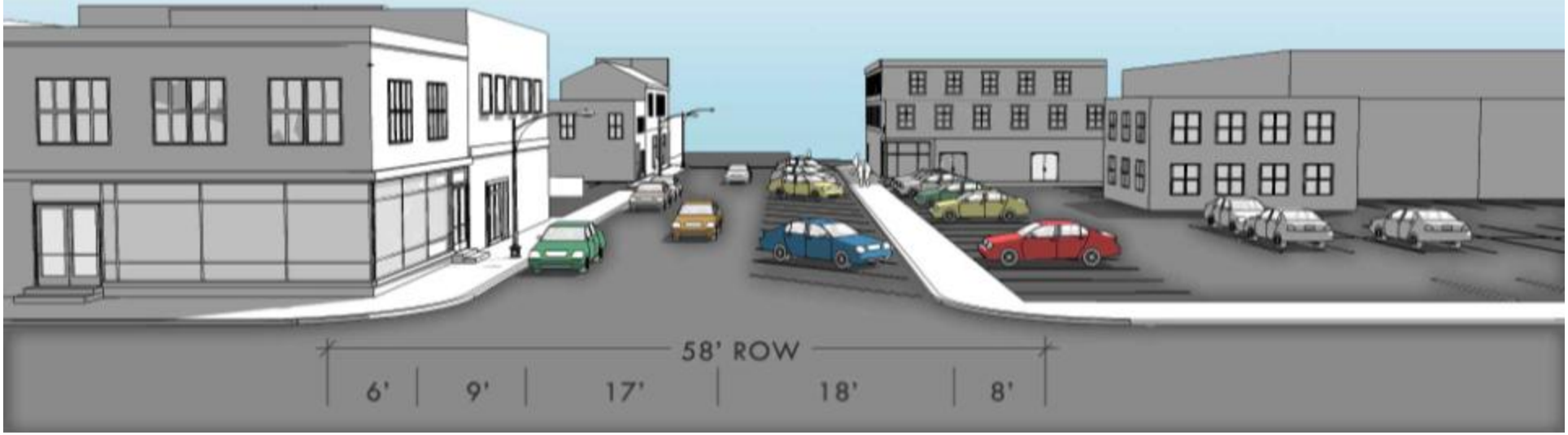
MODAL EMPHASIS = TRANSIT + PEDESTRIAN



	BUILDING FRONTAGE ELEMENT	SIDEWALK THROUGH ELEMENT	AMENITY ELEMENT	PARKING ELEMENT	BIKE ELEMENT	TRAVEL LANE ELEMENT	MEDIAN ELEMENT
Optimum	5 ft	6 ft	7.5 ft	8 ft both sides	6 ft bike lane	12 ft*	19 ft
Minimum	2.5 ft	6 ft	4.5 ft	None	On parallel facility	11 ft	None
Standard Used	2.5 ft	6.5 ft	5 ft	7 ft one side	On parallel facility	12 ft	None

APPLYING MODAL EMPHASIS IN CONSTRAINED ROW SITUATIONS:

EXISTING STREET CROSS SECTION



PROPOSED MULTIMODAL CORRIDOR CROSS SECTION (TRANIST + PED. PRIORITY)

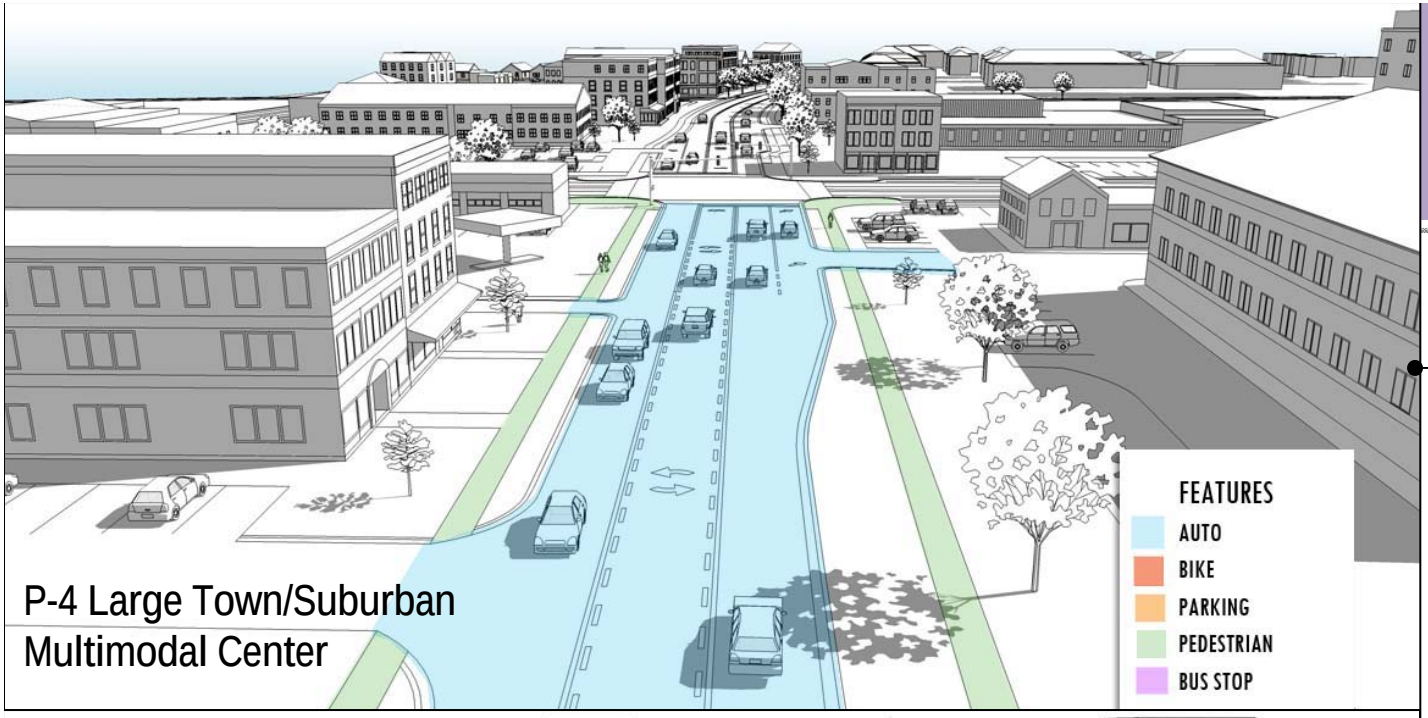
CHAPTERS 7: TDM

Service Category	TDM Strategy	Areas with Higher Intensity Multimodal Centers (P-6 to P-5)	Areas with Moderate Intensity Multimodal Centers (P-4 to P-3)	Areas with Lower Intensity Multimodal Centers (P-2 to P-1)
Transportation Information	Mobility Center/Kiosk	High priority	Low priority	Not applicable
	Call Center/Help Line	High priority	High priority	Not applicable
	Radio/TV/Paper	High priority	Low priority	Low priority
	Websites/Social Media	High priority	High priority	High priority
	Real-Time Travel Information	High priority	High priority	High priority
Employer Services	Commute Planning	High priority	High priority	High priority
	Telework Support	High priority	High priority	High priority
	Commuter Benefit Programs	High priority	High priority	Low priority
	Alternative Work Schedules	High priority	High priority	High priority
Education & Outreach	Corridor-Level Programs	High priority	Low priority	Not applicable
	Bike	High priority	Low priority	Not applicable
	Walk	High priority	Low priority	Not applicable
	New Resident Kits	High priority	High priority	High priority
Ridesharing	Ridematching	High priority	High priority	High priority
	Vanpool Subsidy	High priority	Low priority	Low priority
	Slug Lines	High priority	Low priority	Not applicable
Infrastructure	Park & Ride Lots	High priority	High priority	High priority
	Private Shuttles	High priority	Low priority	Not applicable
	Carshare	High priority	Low priority	Not applicable
	Bikeshare	High priority	Low priority	Not applicable
Financial Incentives	Goal-Based Programs	High priority	Low priority	Low priority
Support Services	Guaranteed Ride Home	High priority	High priority	High priority
Land Use & Zoning	TDM Conditions	High priority	High priority	Low priority

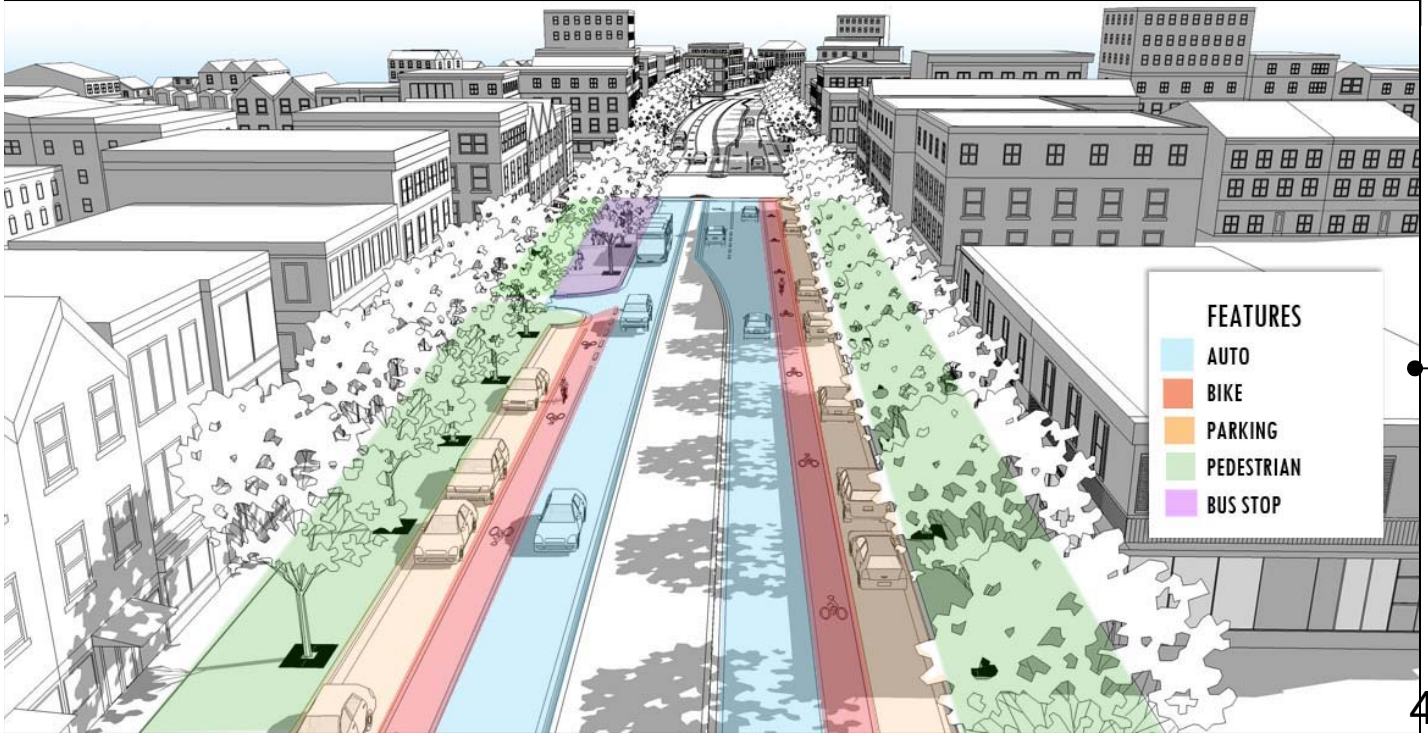
CHAPTER 8: IMPLEMENTATION & FUNDING BEST PRACTICES

Entities	Potential Strategies
Localities	Incorporate improvement projects into City or County Capital Improvement Programs and MPO plans and priority lists (such as the Long Range Transportation Plan, Transportation improvement Program Enhancement Projects List, and Congestion Management Process)
MPOs	Consider increasing the amount of funds set aside from federal and state funding allocations each year to provide an ongoing funding allocation for bicycle and pedestrian projects that would not get completed as part of widening, resurfacing, or other major roadway projects.
Local governments and MPOs	coordinate with VDOT for inclusion in State Highway Plan
Local governments and MPOs	▪ Proffers from Private Development ▪ Revenue Sharing ▪ Special Districts ▪ Tax Increment Financing

CHAPTER 5: EVOLVING OVER TIME



P-4 Large Town/Suburban Multimodal Center



Evolving Places & Corridors:

- Existing corridor in an area planned to be a future Multimodal center
- Same corridor in future:

  Accommodates more trips, modes & users

  Enhances economic vitality & quality of life

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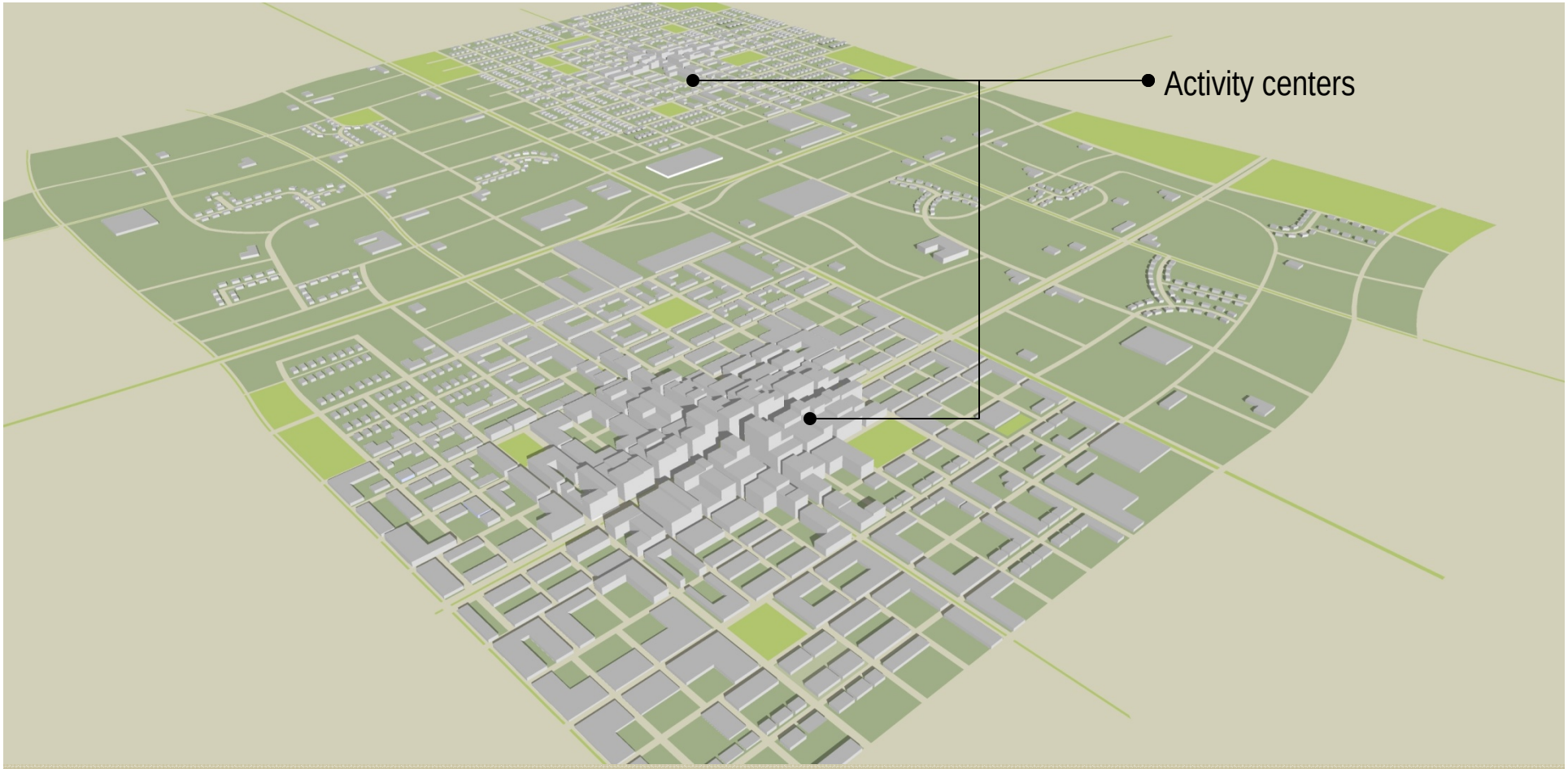


The Multimodal and Public Space Design Guidelines:

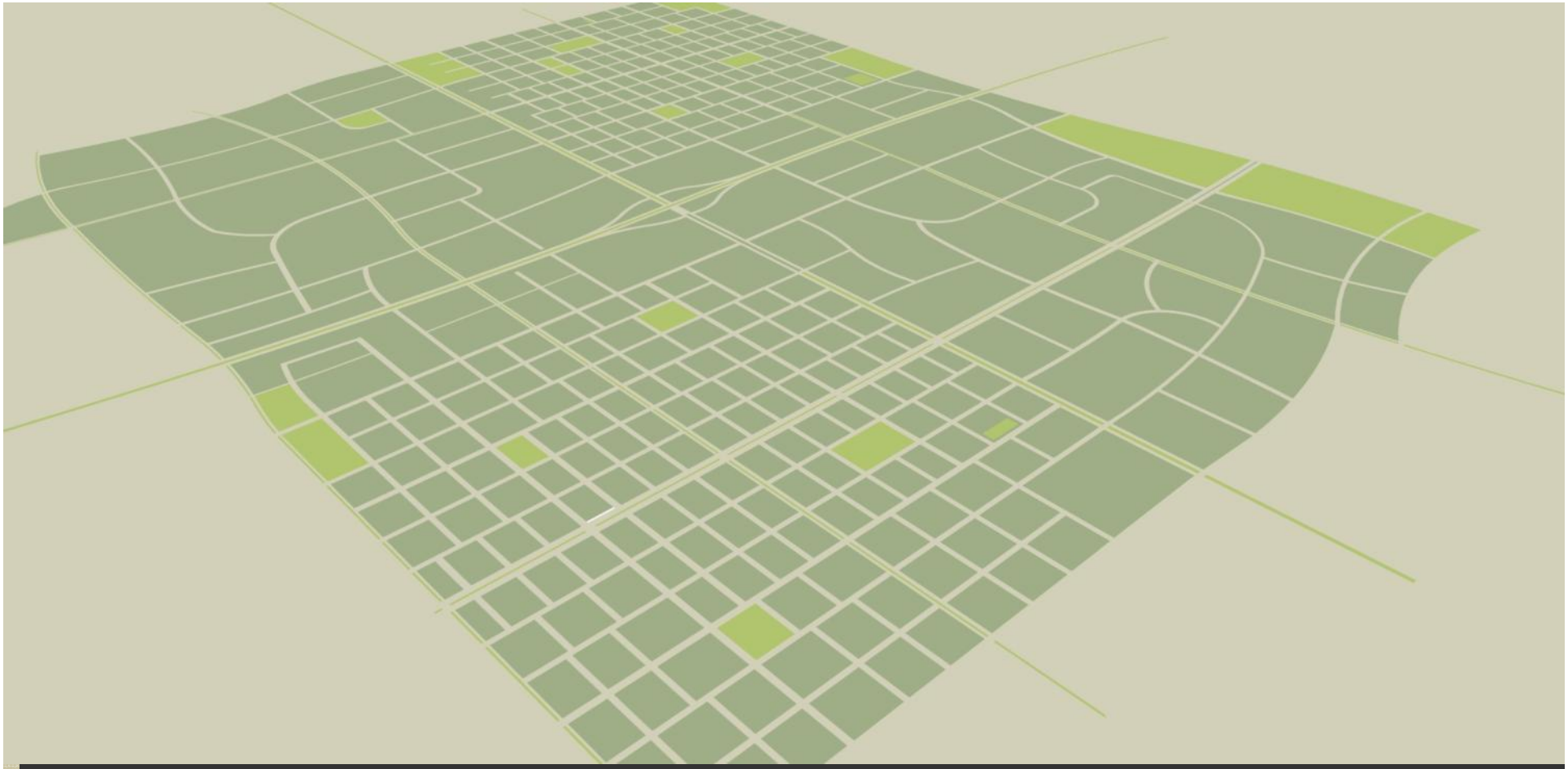
This presentation describes a process for making Multimodal Regions, Places and Corridors according to the DRAFT Multimodal Guidelines

All the images will use a hypothetical model of a portion of a city with two centers of activity

MULTIMODAL & PUBLIC SPACE
Design Guidelines
VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

BUILDING A MULTIMODAL REGION

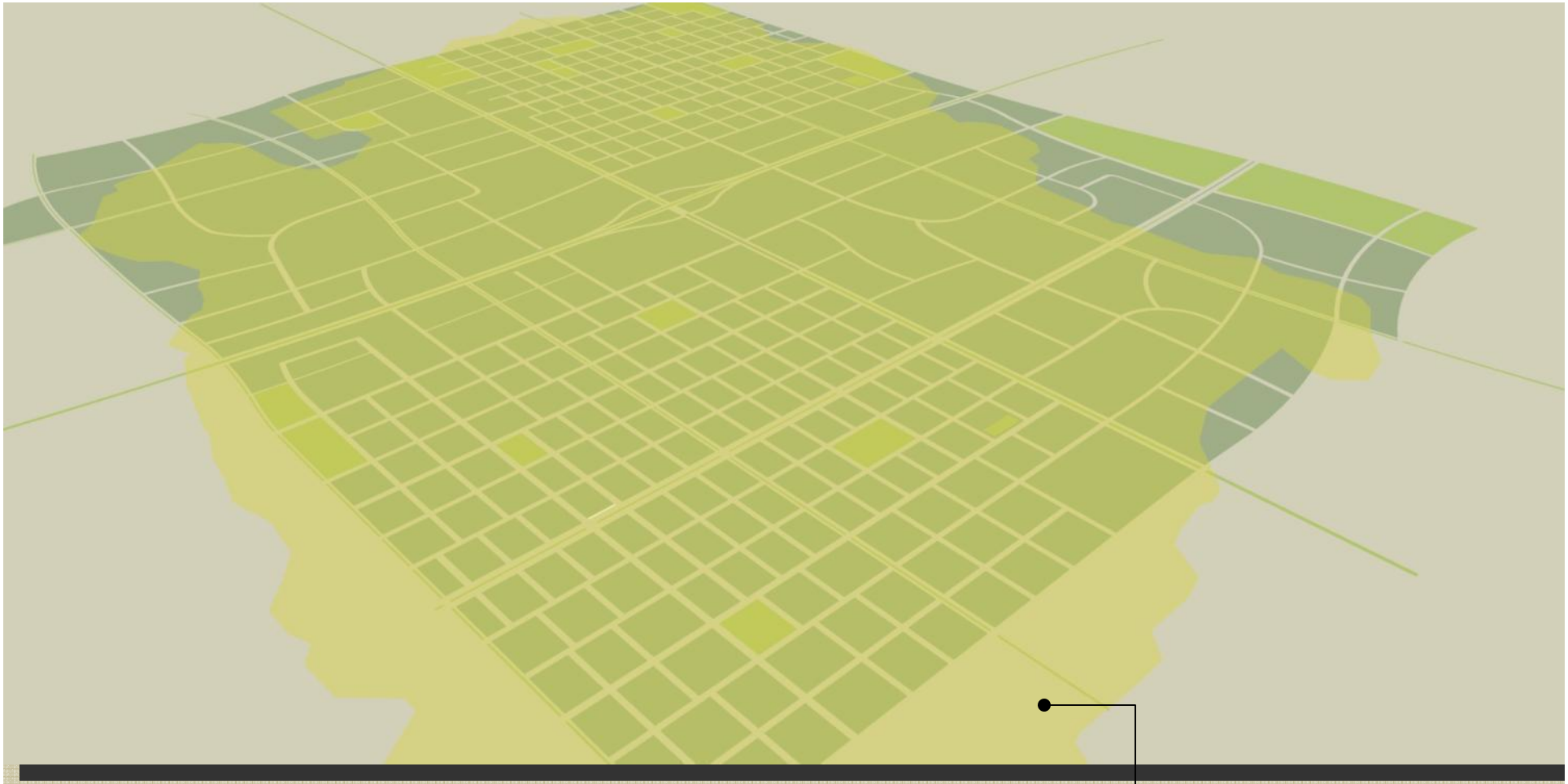
The following animation shows a hypothetical 3-D model of a portion of a city with two centers of activity. This could also be two adjacent suburban centers on either side of an expressway interchange. This model will be the basis for showing how to build a multimodal systems plan in the following images.



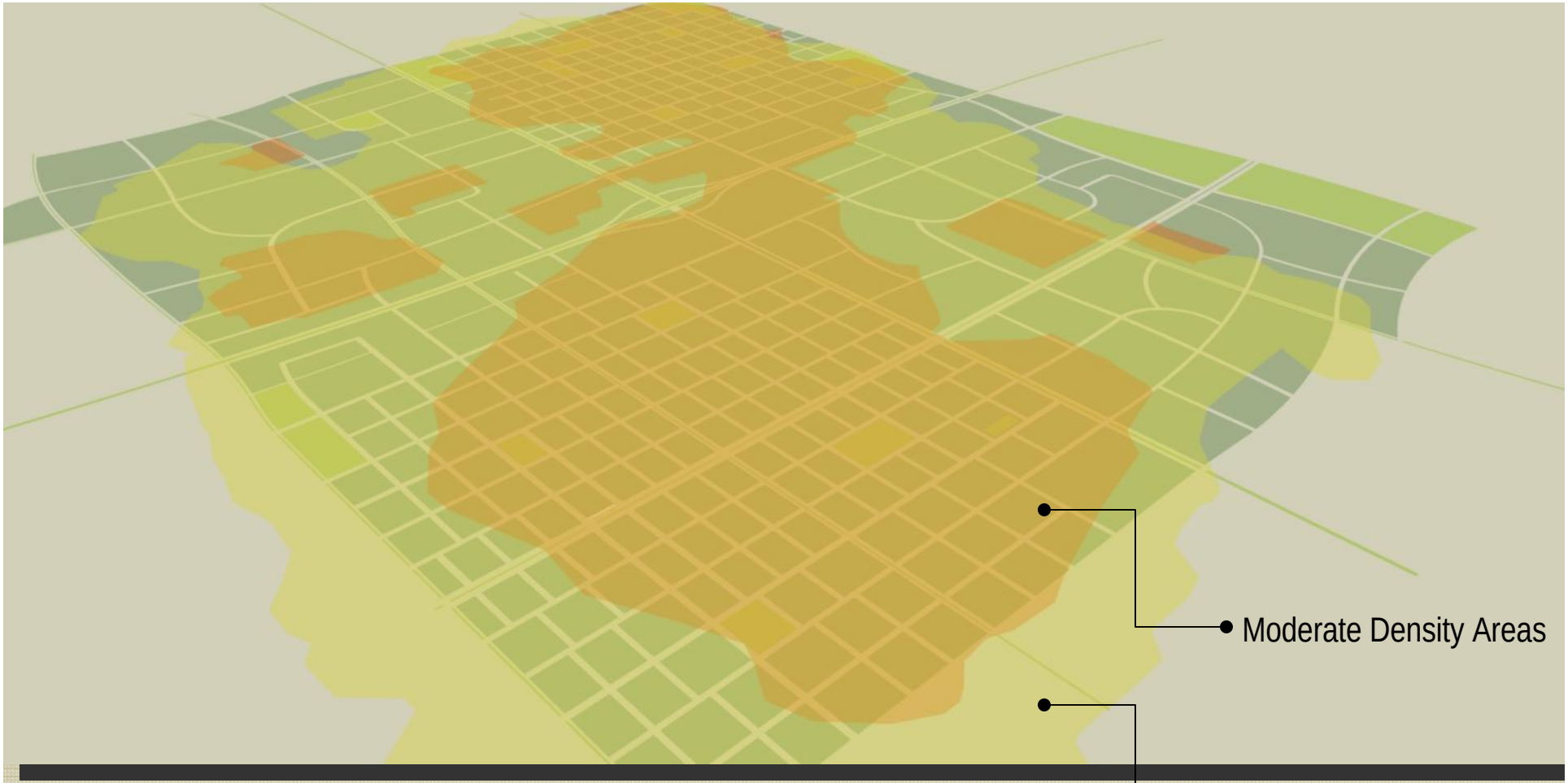
So let's assume we want to develop a Multimodal Plan for this area:

The first step will be to look at centers of activity in the area

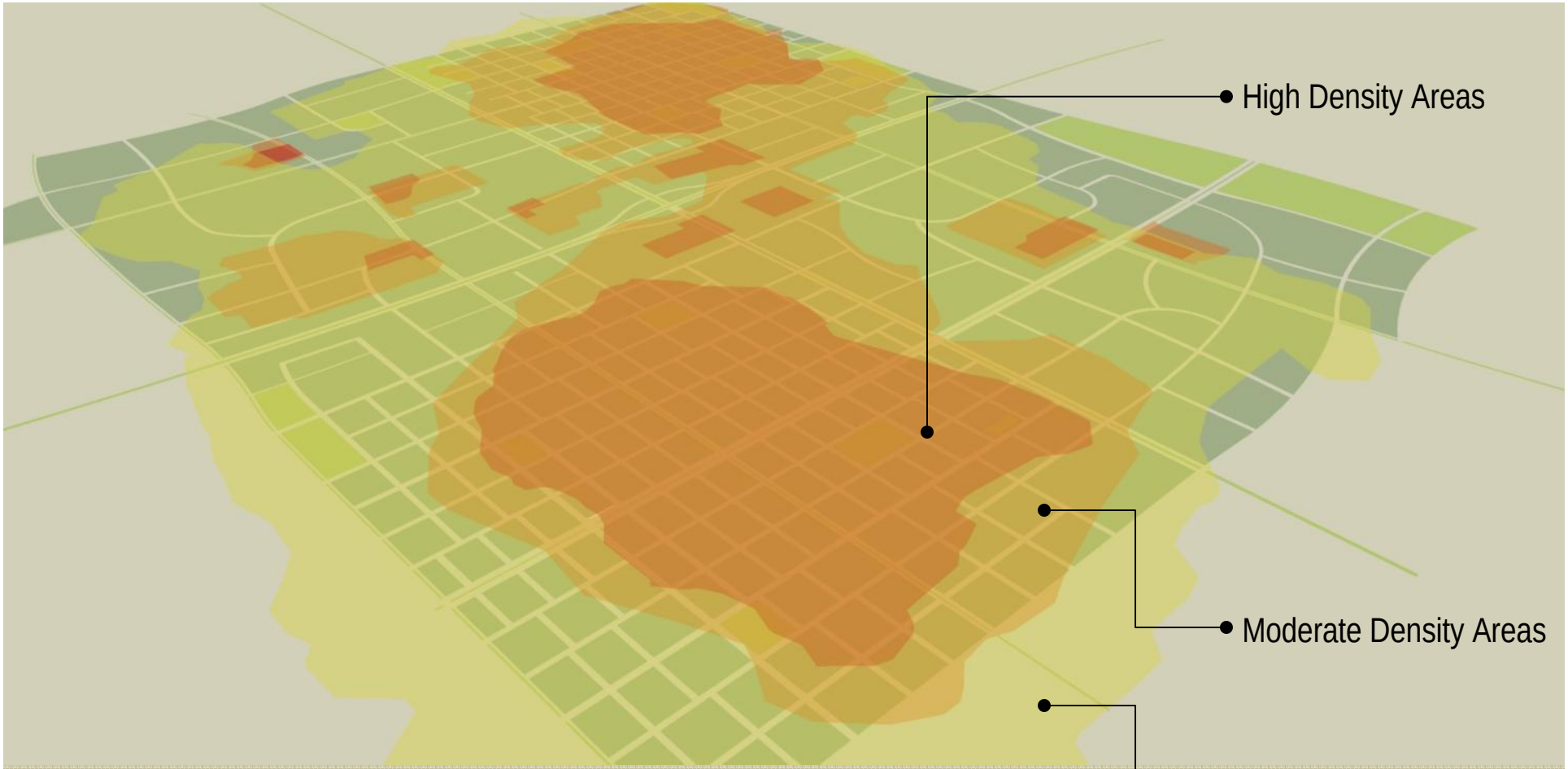
"Activity" can be defined as the concentrations of jobs and population



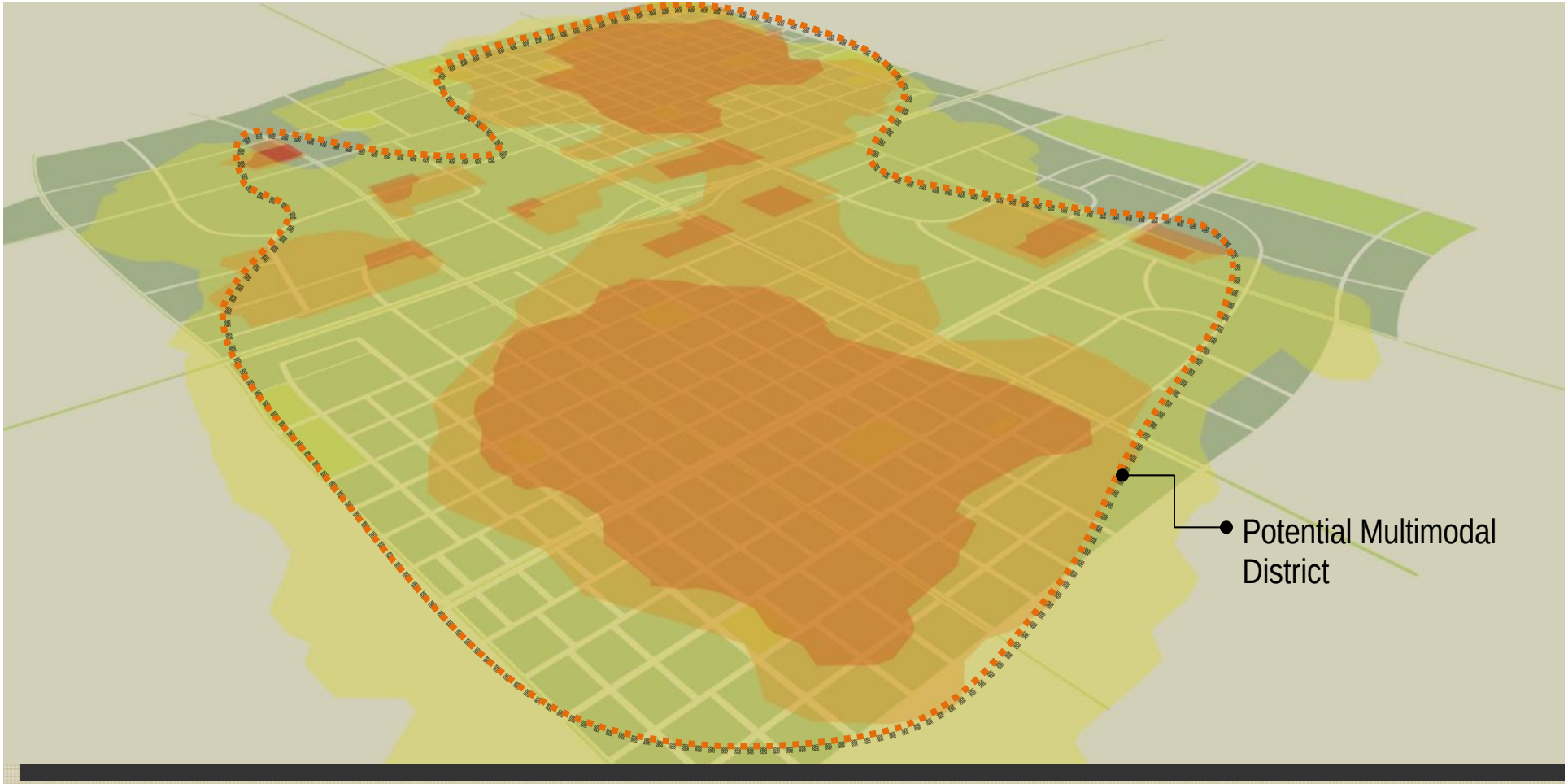
The yellow area shows low density areas (jobs & people)



The orange area shows moderate density areas (jobs & people)



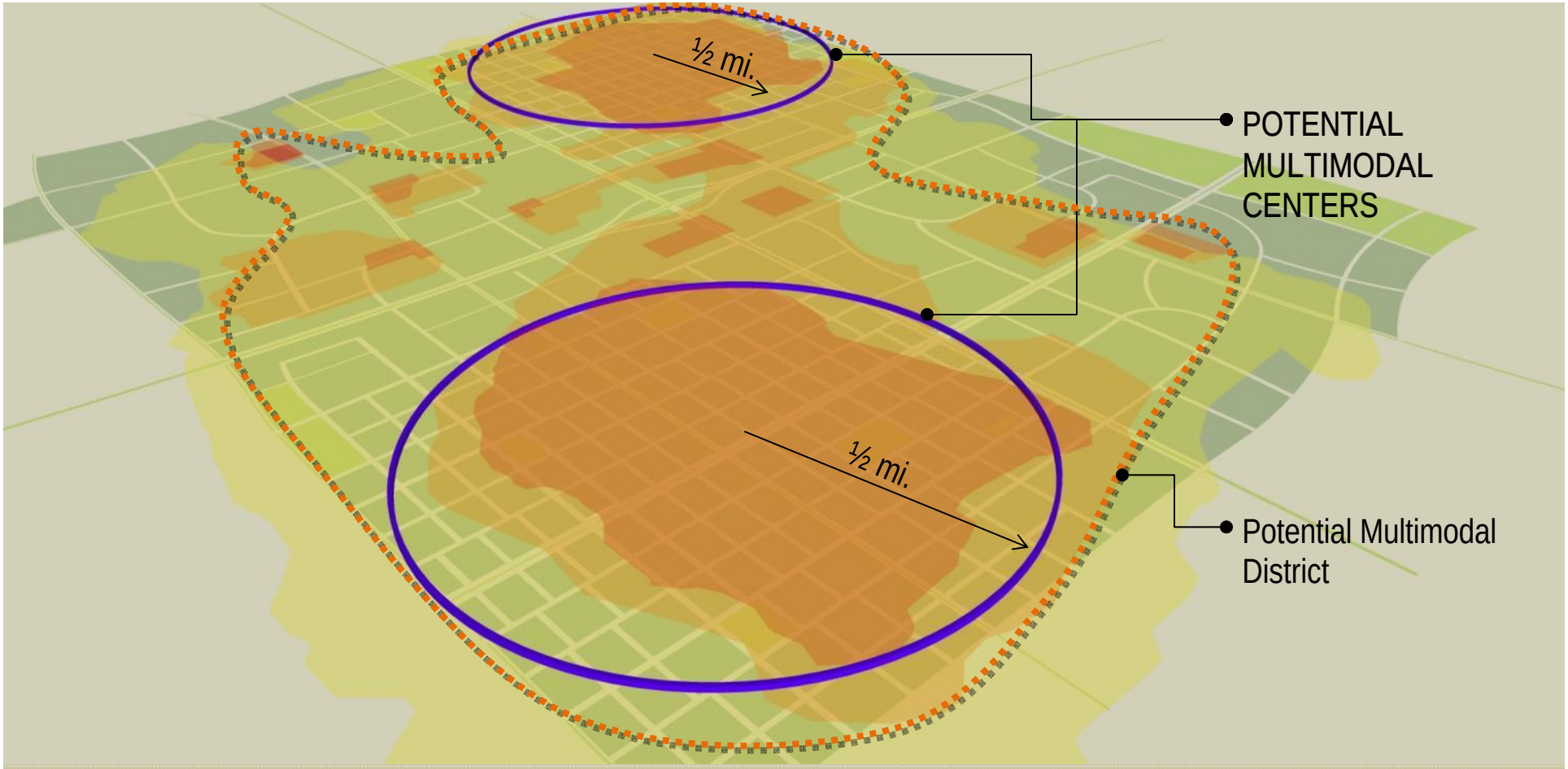
The red area shows high density areas (jobs & people)



Multimodal Districts:

A **Multimodal District** can be any area that has good multimodal characteristics:

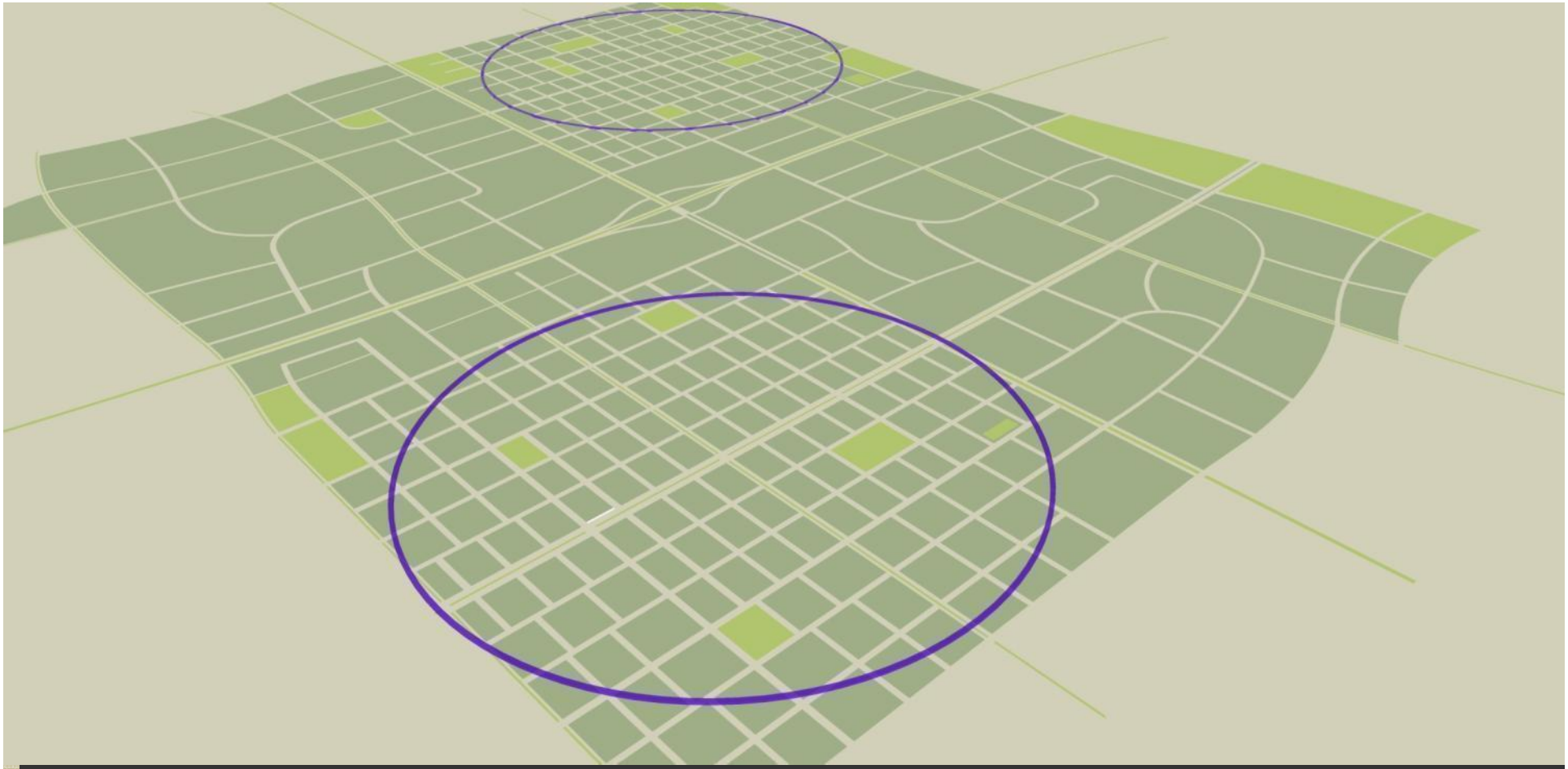
- Moderate or high density
- Walkable
- Connected streets



Multimodal Centers:

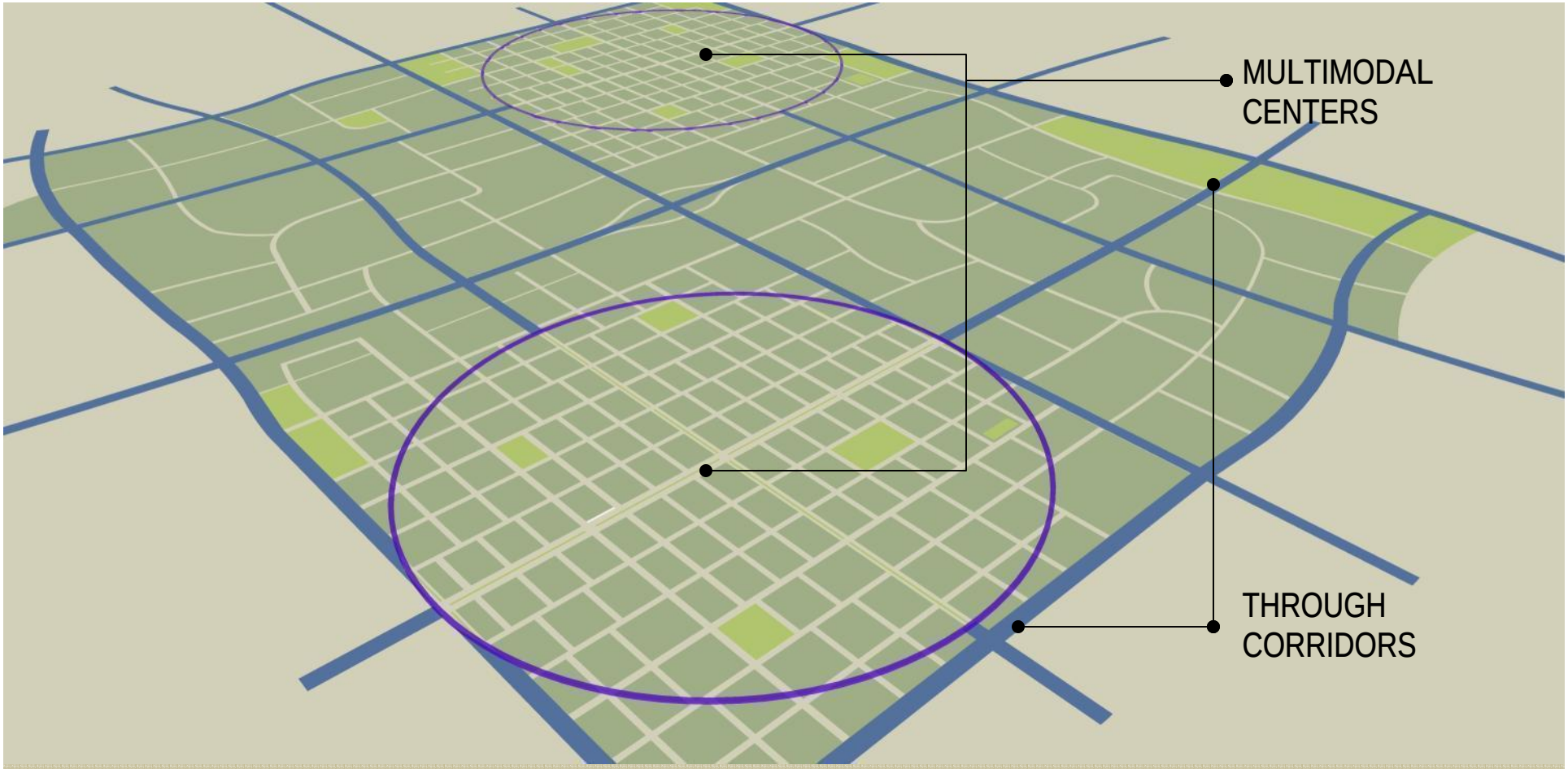
A **Multimodal Center** are specific areas to focus multimodal investments. They are defined by walksheds

- Multimodal Centers should be located at the centers of activity and intensity on a region
- Multimodal Centers are typically 1 mile wide (1/2 mile radius)
- A ½ mile radius is typically a 10 minute walk



Getting to and through Multimodal Centers:

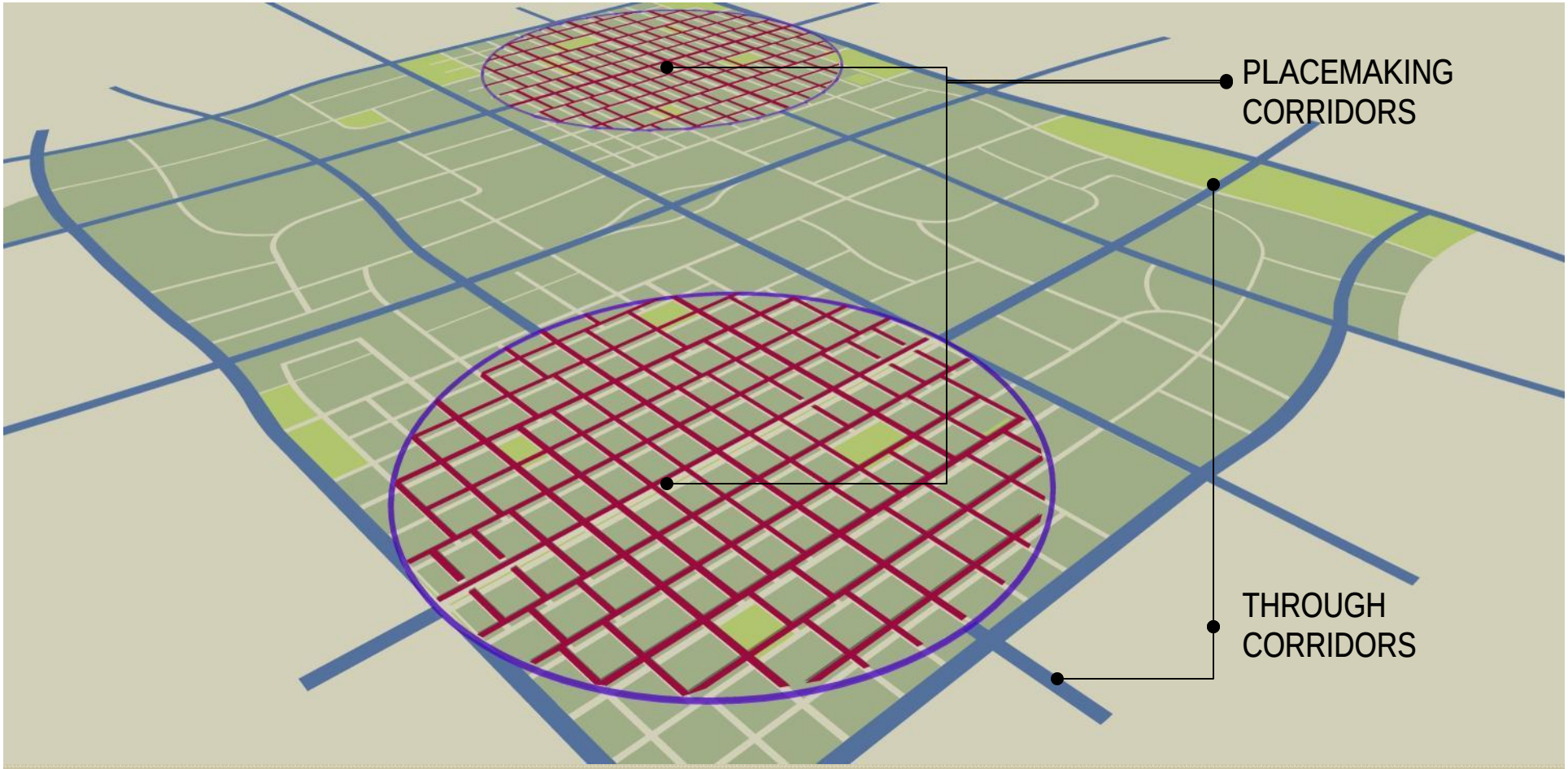
Now let's look at how you get to Multimodal Centers and how to circulate through them



THROUGH CORRIDORS:

Through Corridors are the corridors that circulate through the region and go from one Multimodal Center to another. They are typically:

- Moderate speed (45 mph or above)
- Mobility primary but still MULTIMODAL



PLACEMAKING CORRIDORS:

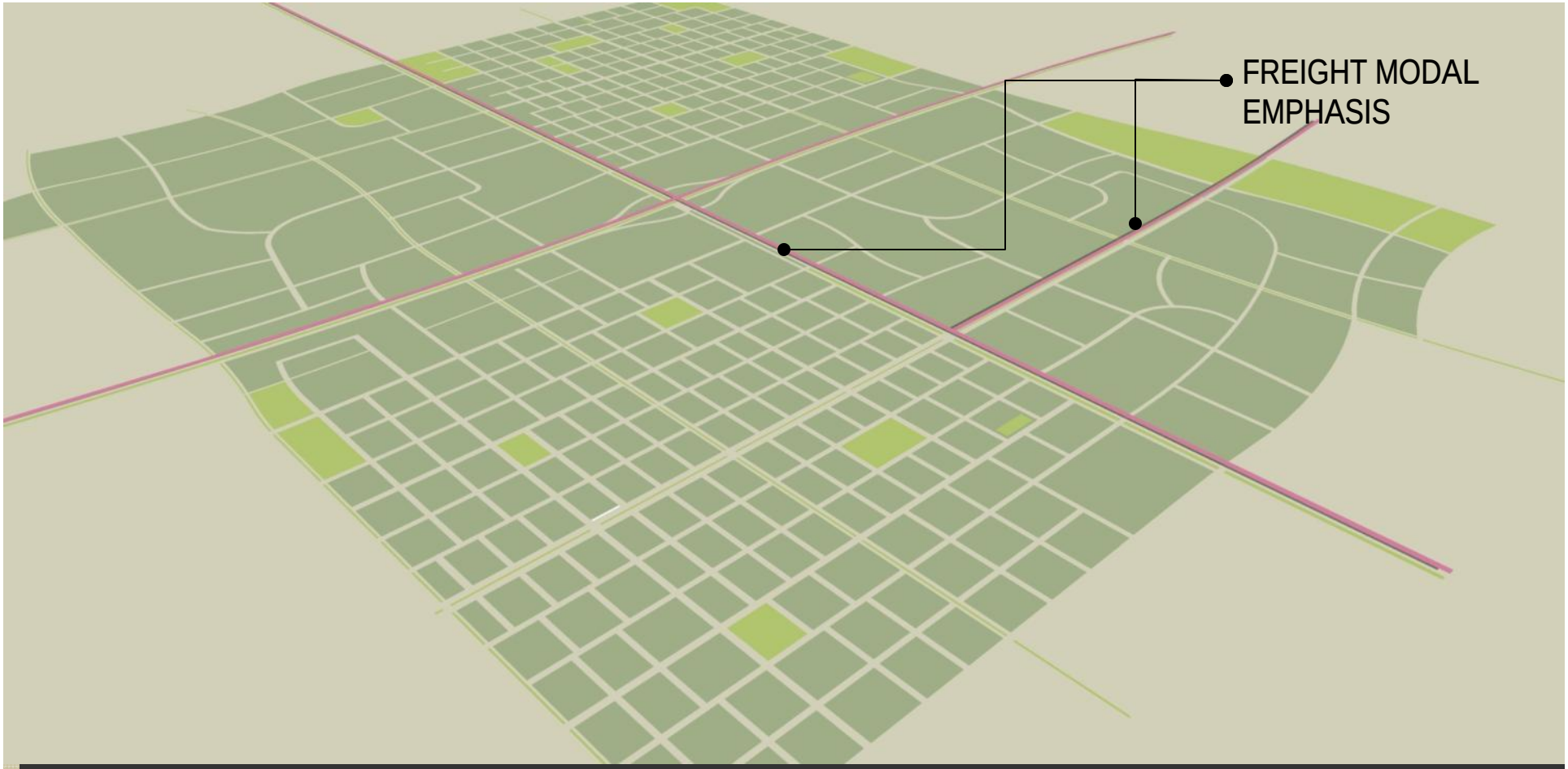
Placemaking Corridors are the corridors that circulate within each Multimodal Center. They are typically:

- Lower speed (35 mph and below)
- Accessibility primary
- Connected, walkable and multimodal

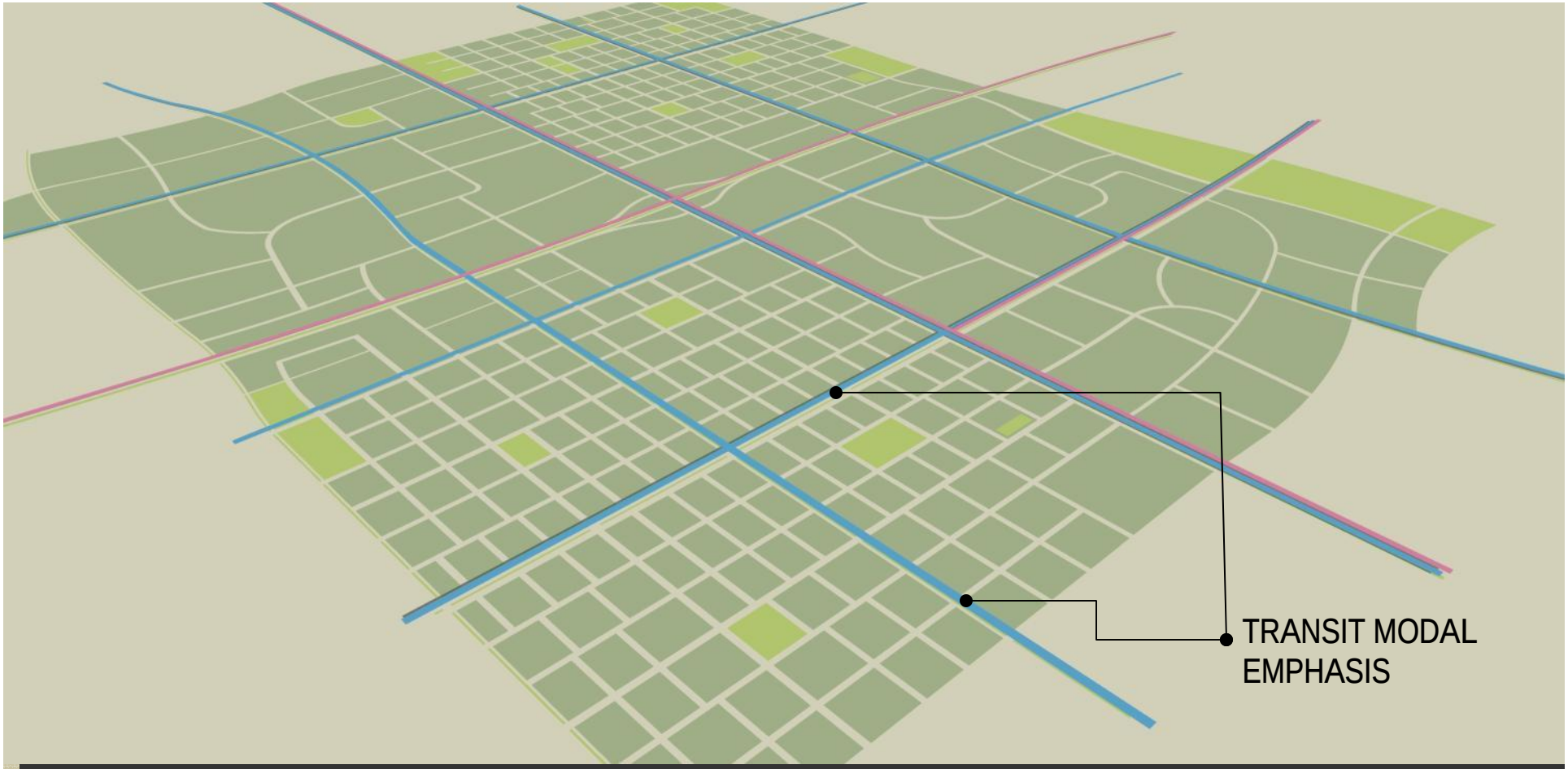
MODAL EMPHASIS:

Modal Emphasis describes how each of these corridors works with travel modes. Travel modes include:

- Transit
- Freight
- Bicycle
- Pedestrian
- NOTE – Auto mode is assumed on all corridors

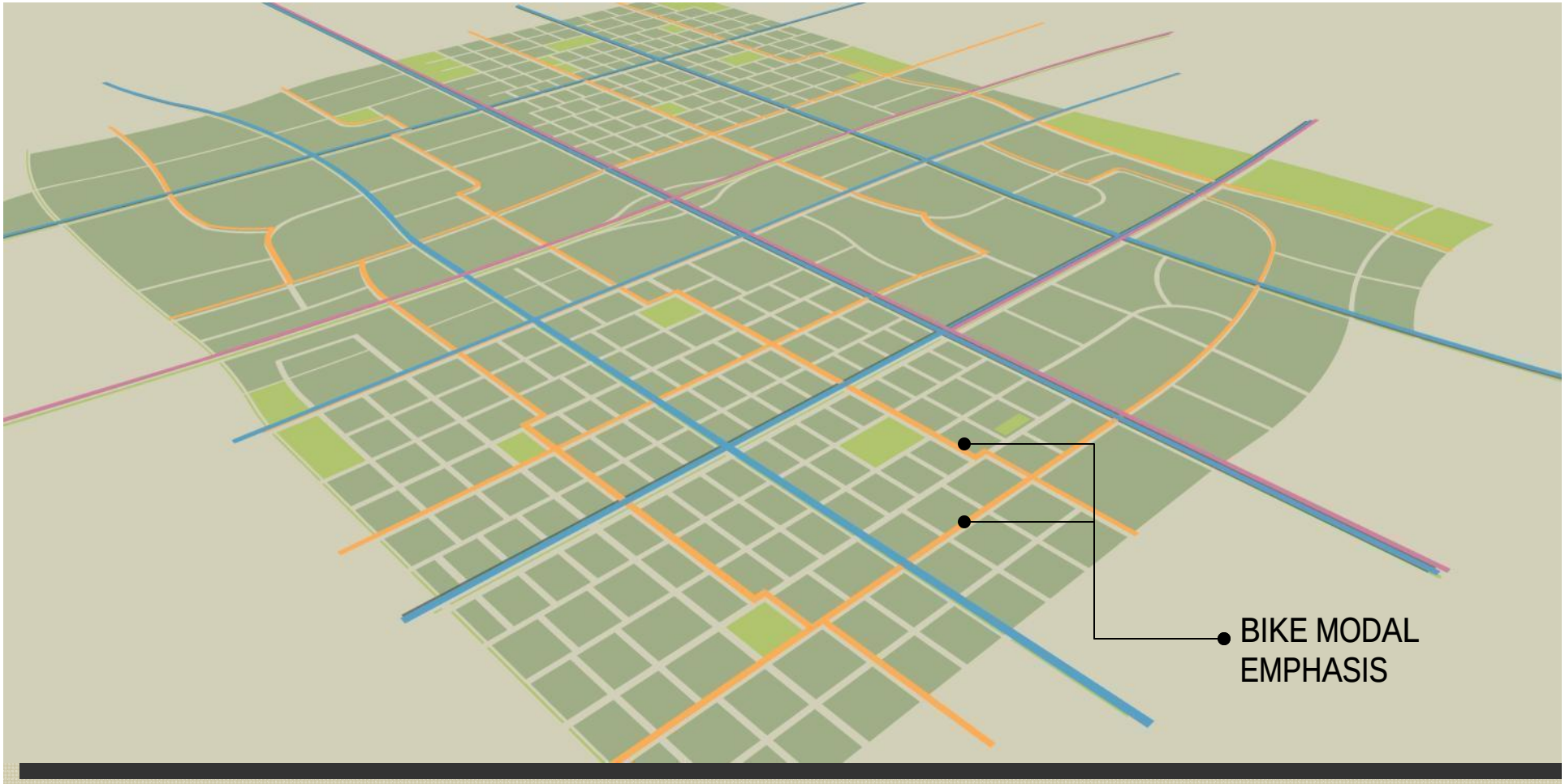


FREIGHT MODAL EMPHASIS CORRIDORS:



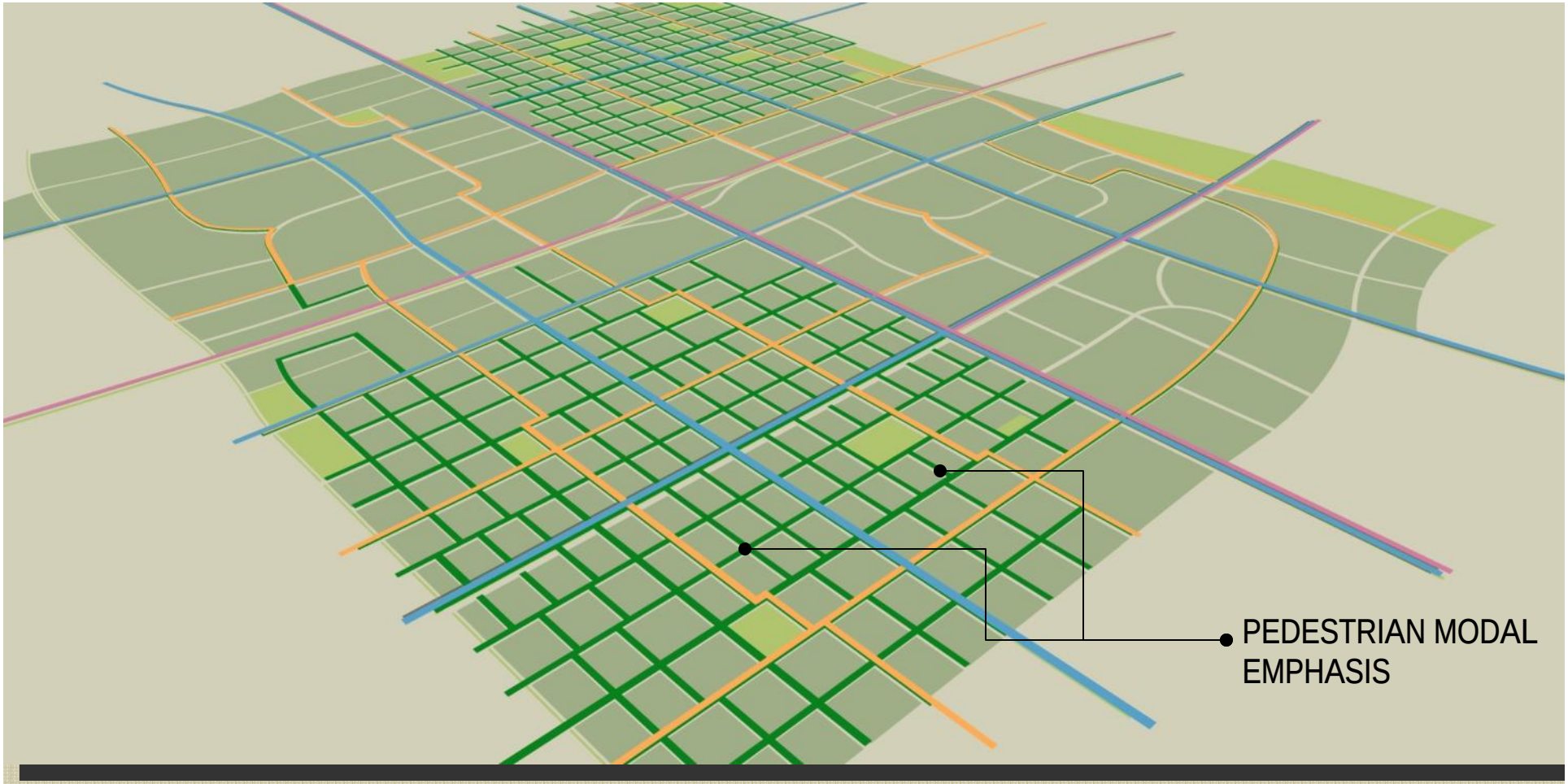
TRANSIT MODAL EMPHASIS CORRIDORS:

Note that the Transit corridors go through the center of each Multimodal Center



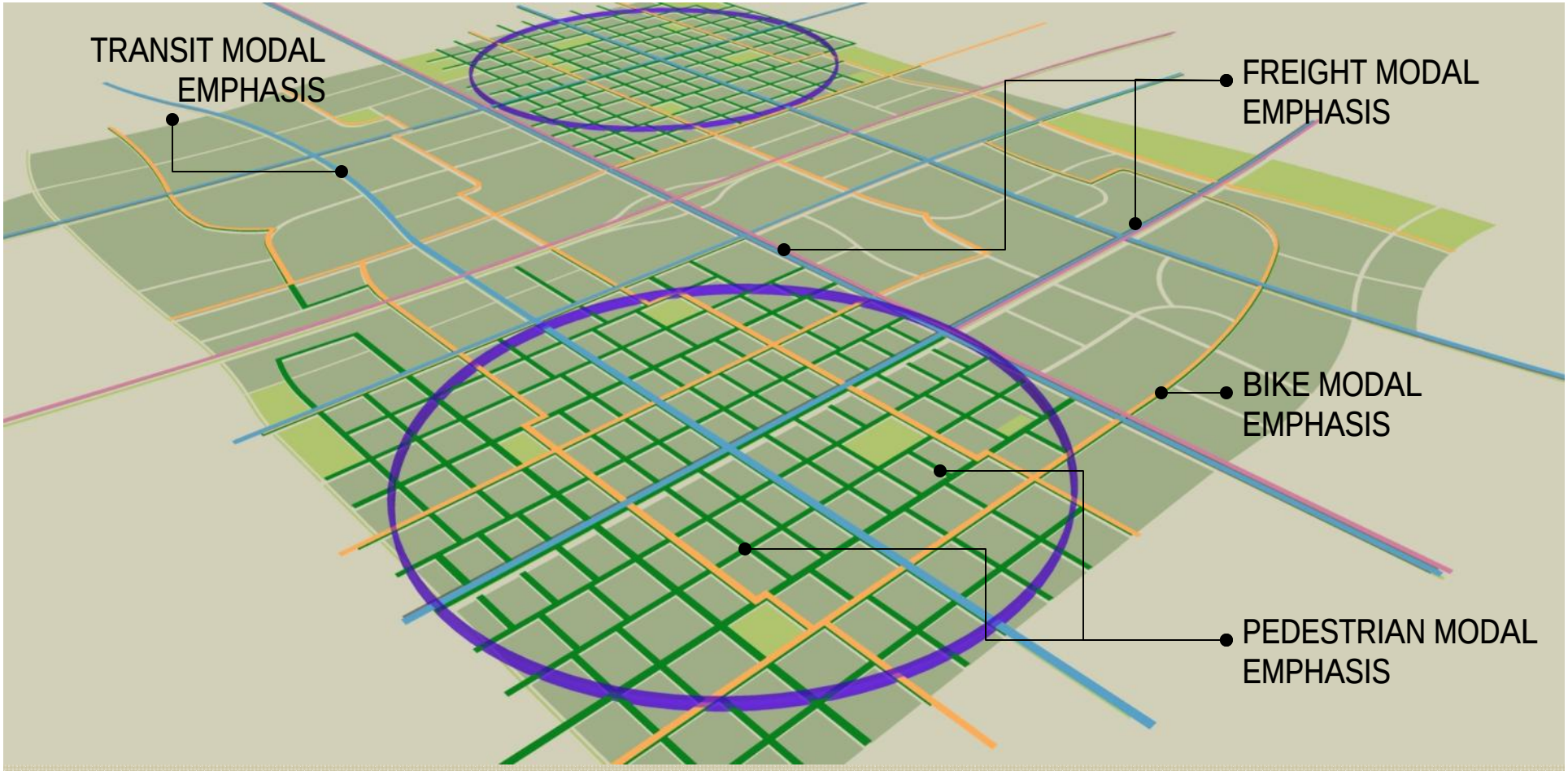
BICYCLE MODAL EMPHASIS CORRIDORS:

Note that most roads within each Multimodal Center will be accessible to bikes. This map only shows the major corridors that specifically have Bicycle Modal Emphasis



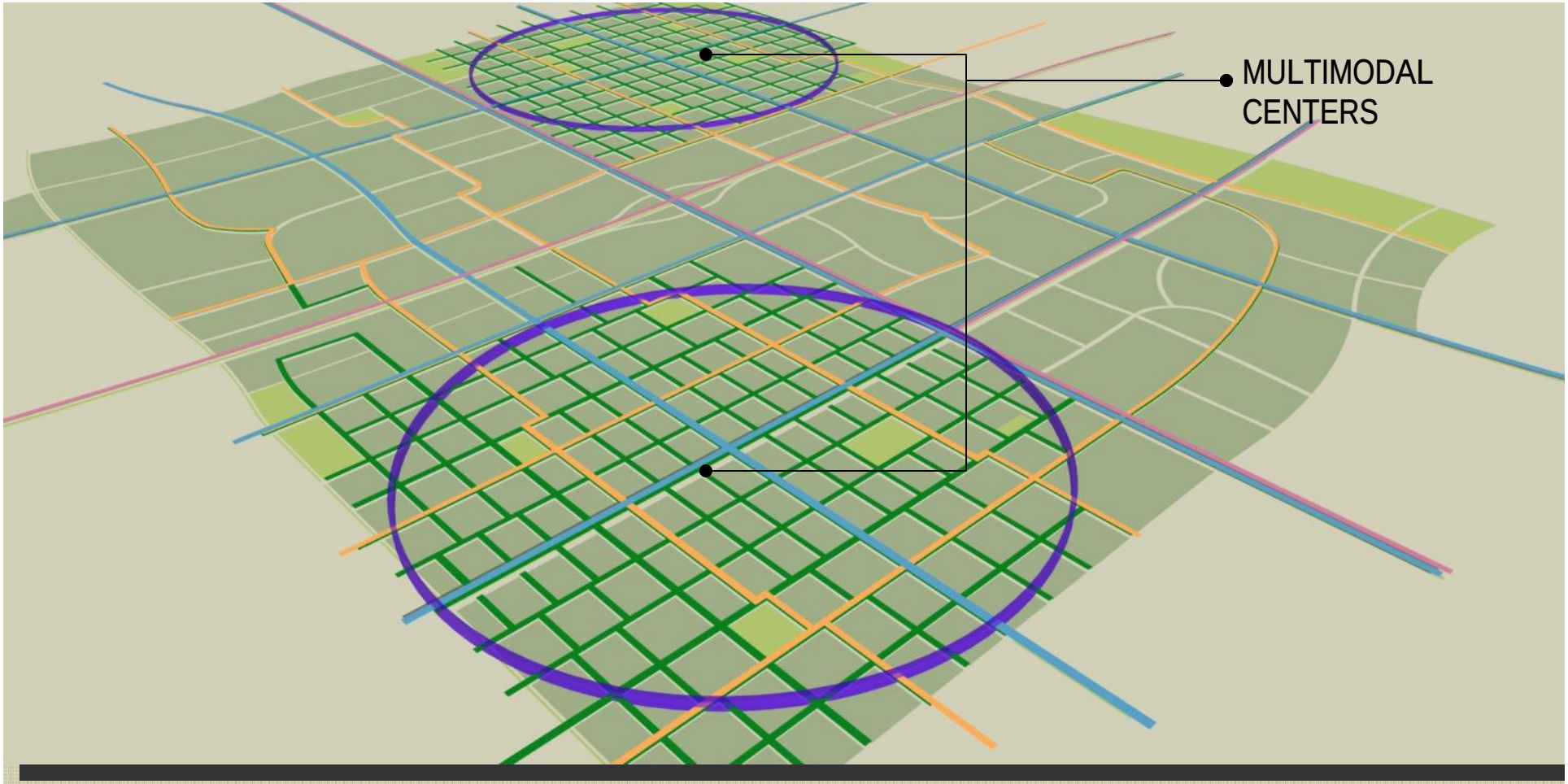
PEDESTRIAN MODAL EMPHASIS CORRIDORS:

Note that almost all roads within each Multimodal Center have Pedestrian Modal Emphasis



A MULTIMODAL SYSTEMS PLAN:

The combination of Multimodal Centers and Multimodal Corridors (with Modal Emphasis) creates a Multimodal System Plan for the region. It shows how you can get from center to center and the variety of travel choices available



A MULTIMODAL SYSTEMS PLAN:

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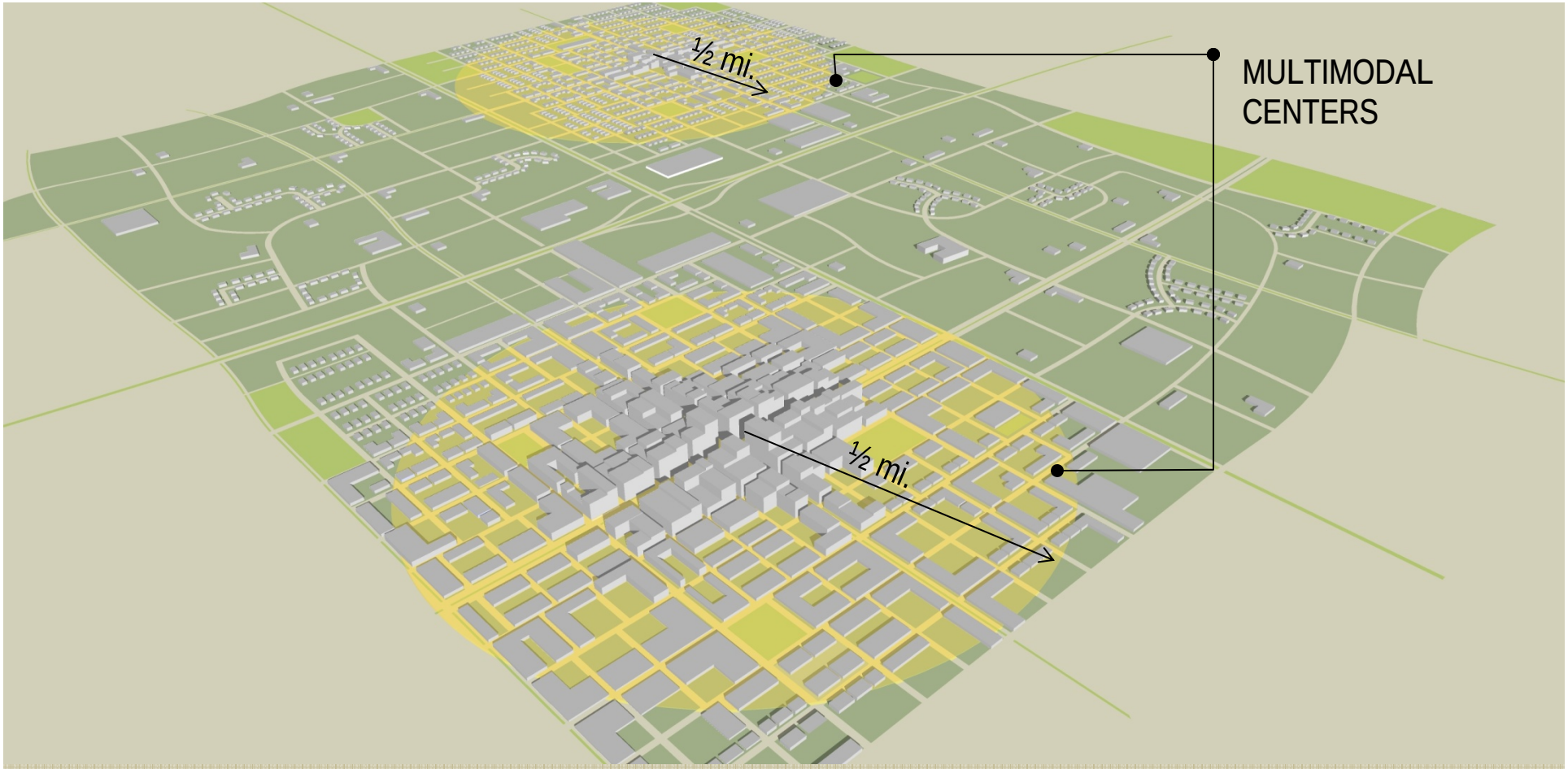
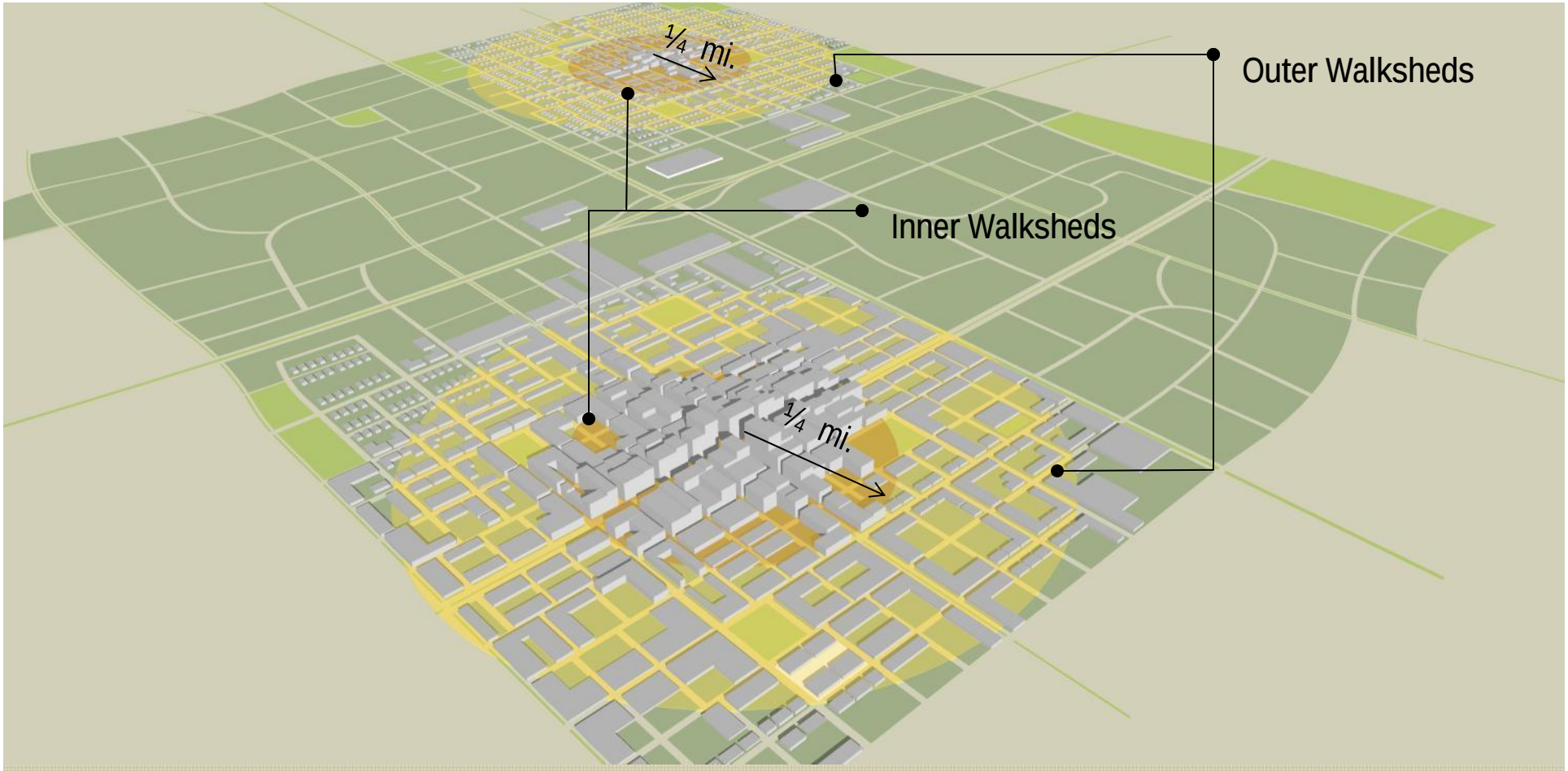
TAKING A CLOSER LOOK AT MULTIMODAL CENTERS:

The next set of images looks at Multimodal Centers in more detail. In this hypothetical model, two multimodal centers are shown. The next images describe some of the "inner workings" of a multimodal center.



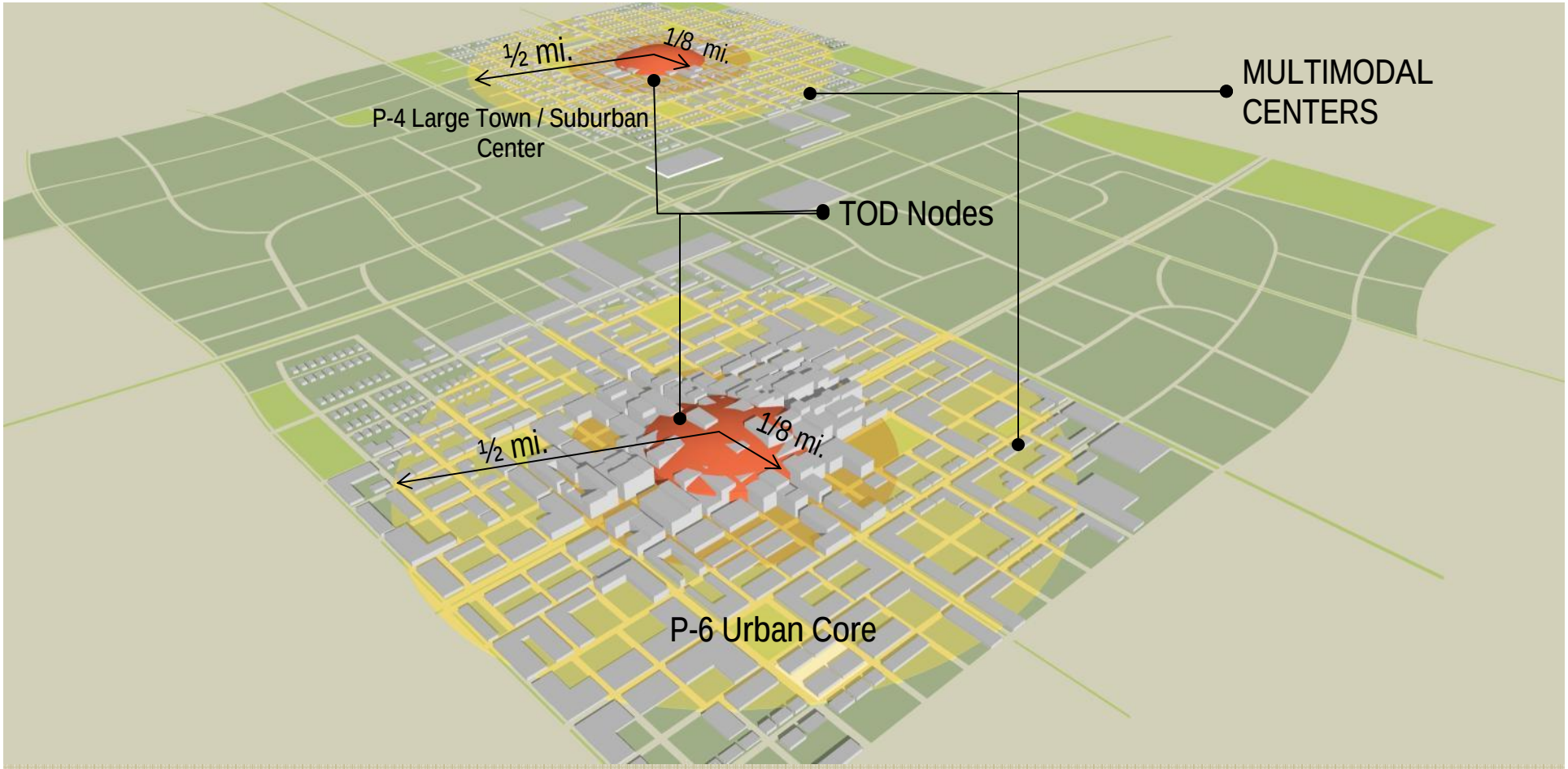
THE “WALKSHED” AS A BASIC MEASURE OF MULTIMODAL CENTERS:

Each Multimodal Center is defined by a ½ mile radius “walkshed” – the area that research shows is a comfortable walk (10 minutes roughly) around a center.



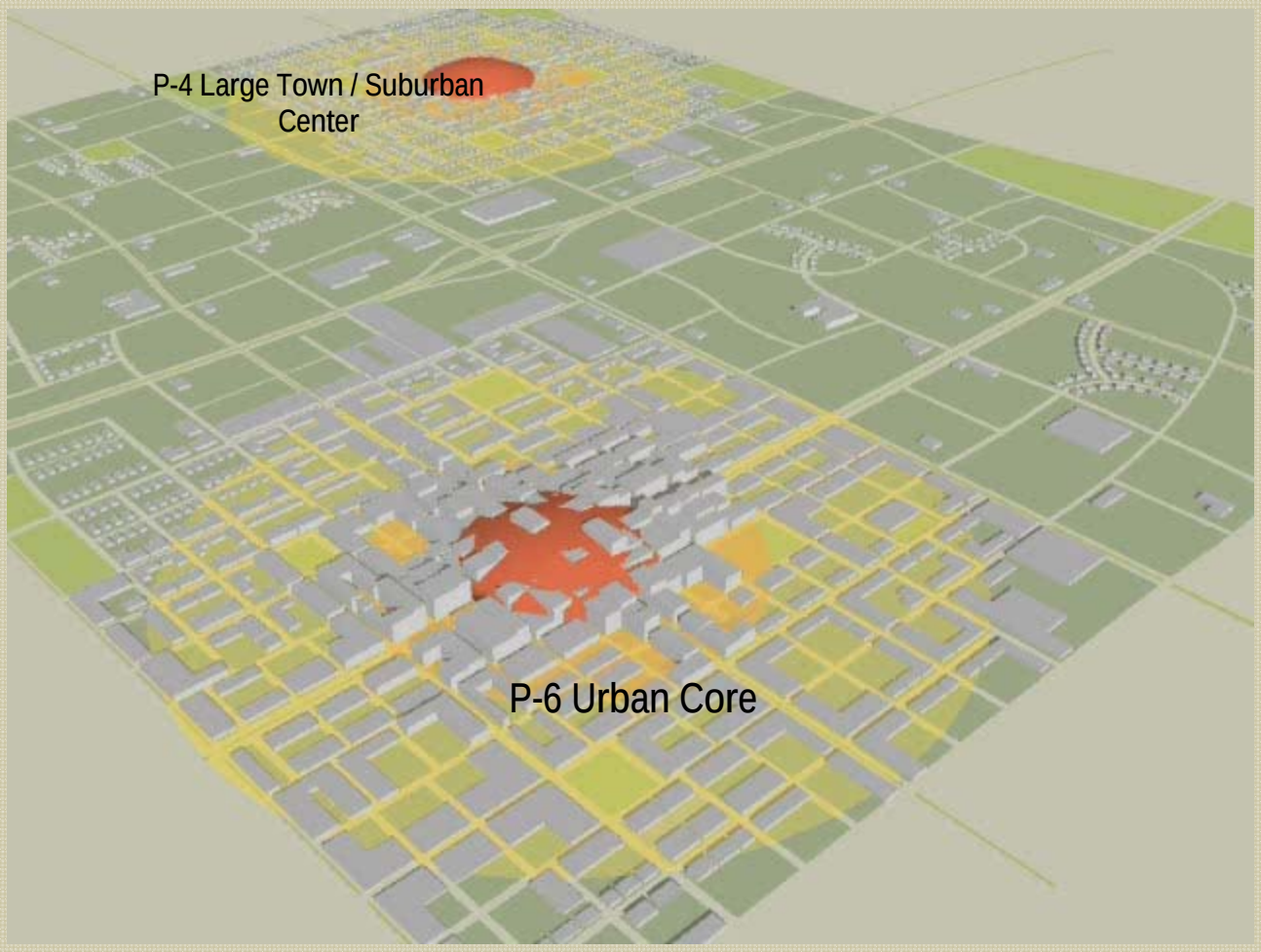
THE INNER “WALKSHED”:

Each Multimodal Center also has an inner “walkshed” which is the area that can be walked in 5 minutes (1/4 mile radius).



THE TOD NODES

Some Multimodal Center (those with high capacity transit going through them) can have a Transit Oriented Development (TOD) “Node” located within a 1/8 mile radius around the station. This is the area within the center that has the greatest density and concentration of multimodal elements.



PUTTING IT ALL TOGETHER

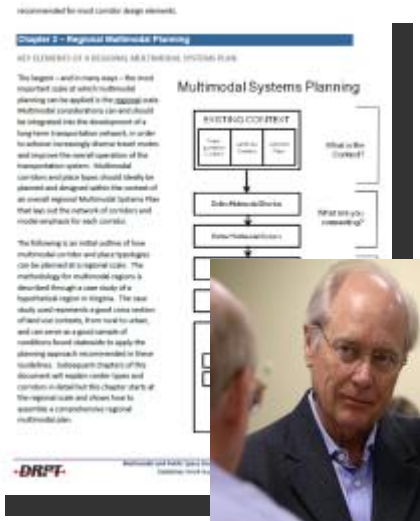
The following animation shows how multimodal centers are connected through a variety of travel modes with a comprehensive network of multimodal corridors.

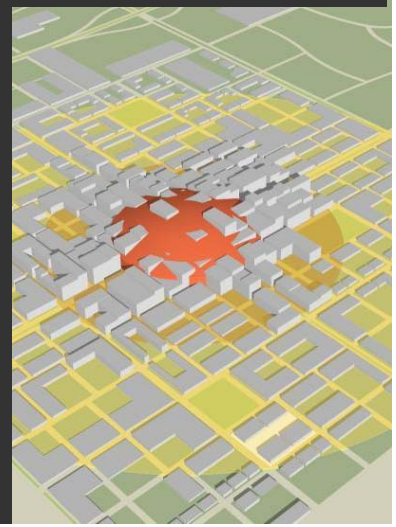
WHAT IS THE VALUE OF THESE GUIDELINES?

- Common language to describe multimodal planning in Virginia
- Unified set of “best practices” for multimodal design, TDM & transit-supportive design
- A statewide resource for planners, transit professionals, officials and the public

NEXT STEPS

- Review by Steering Committee – NOVEMBER
- "Roll Out" Draft Guidelines – DECEMBER
- Web based version – Spring 2013 (anticipated)

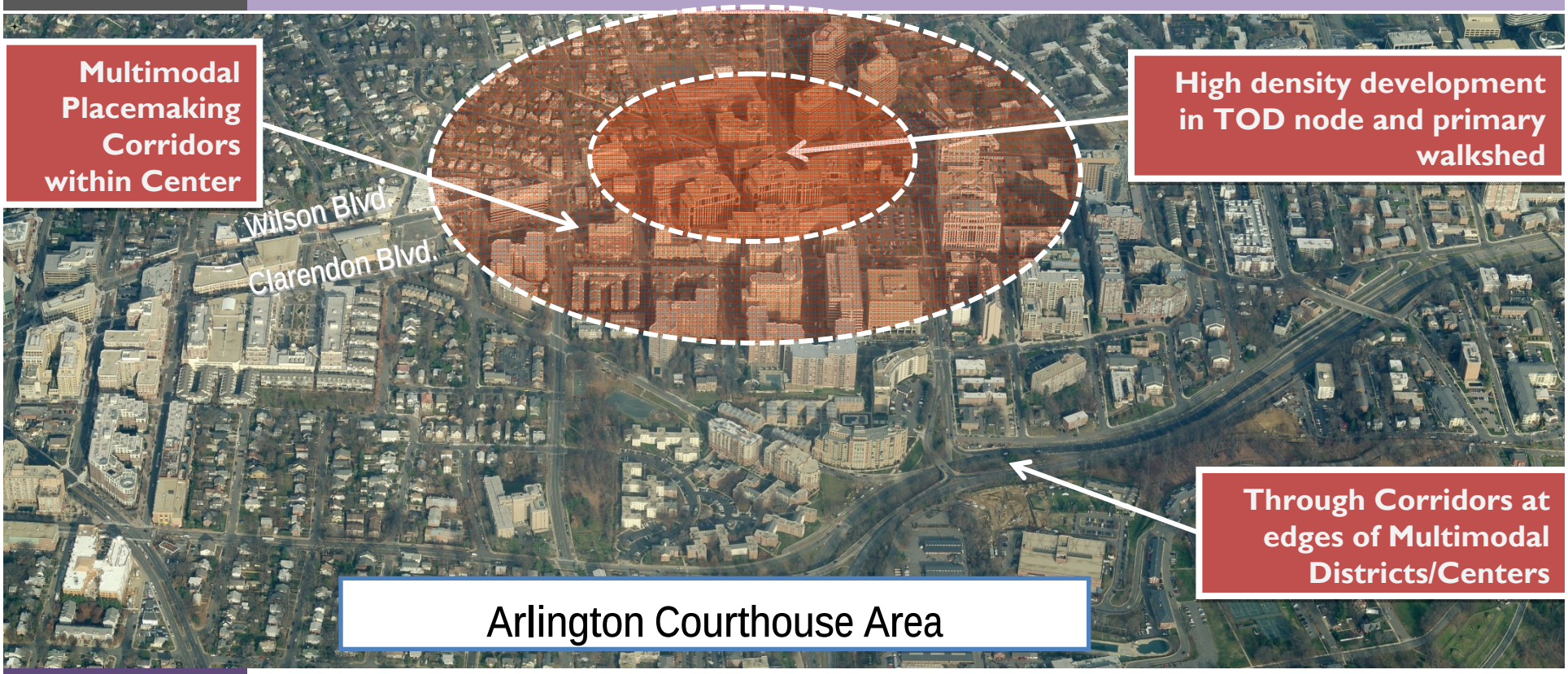




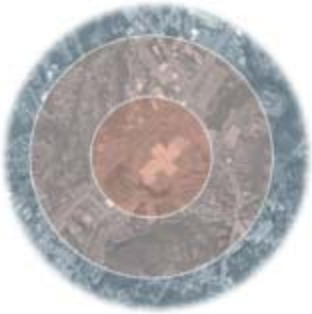
EXERCISE:

MULTIMODAL WALKING TOUR

LOOKING AT CORRIDORS


Multimodal Placemaking Corridors within Center
Wilson Blvd.
Clarendon Blvd.
High density development in TOD node and primary walkshed
Through Corridors at edges of Multimodal Districts/Centers
Arlington Courthouse Area

P-5 Urban Center

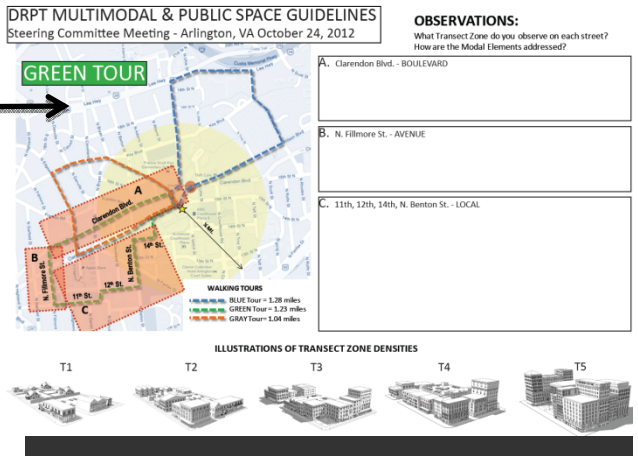


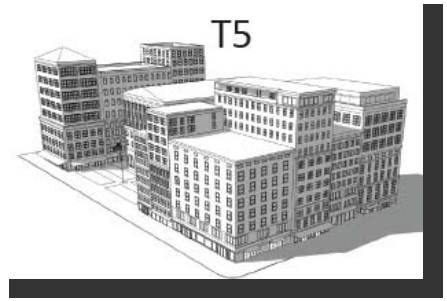
LOOKING AT CORRIDORS

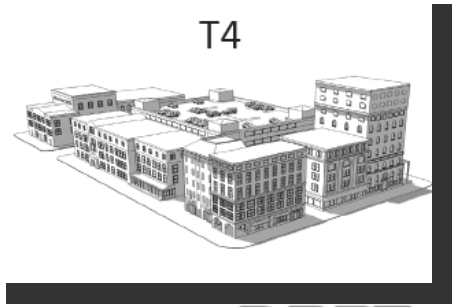
- Grab a bag lunch
- Break into groups of 3-6
- Pick a Tour (see handout)
- Lunch outside in Plaza
- Begin Tour

LOOKING AT CORRIDORS

- Review handout for the tour
- Answer questions as you are able
- Try to identify the general density by T-Zone & make any observations on travel modes
- Meet back here by 1:45
- We will do a quick round robin report out of observations when we return


DRPT MULTIMODAL & PUBLIC SPACE GUIDELINES
Steering Committee Meeting - Arlington, VA October 24, 2012
OBSERVATIONS:
What Transect Zone do you observe on each street?
How are the Modal Elements addressed?
GREEN TOUR
A. Clarendon Blvd. - BOULEVARD
B. N. Fillmore St. - AVENUE
C. 11th, 12th, 14th, N. Benton St. - LOCAL
WALKING TOURS
BLUE Tour = 1.28 miles
GREEN Tour = 1.23 miles
GRAY Tour= 1.04 miles
ILLUSTRATIONS OF TRANSECT ZONE DENSITIES
T1
T2
T3
T4
T5





LUNCH DISCUSSION

MULTIMODALISM IN ARLINGTON COUNTY

DENNIS LEACH
DIRECTOR OF TRANSPORTATION, ARLINGTON COUNTY